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DETROIT

A National Newspaper for Every Branch of the Industry

Automotive Daily News

★CARS★ SHOP EQUIPMENT TRUCKS ★★AVIATION★★ PARTS ACCESSORIES ★TIRES★

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A. A. A. PROTESTS TREASURY OFFICIALS' MOVE TO RETURN FEDERAL EXCISE TAXES

Henry Plans Definite Action by National Body Which Will Convene Next Week at West Baden, Ind.

WASHINGTON, May 28.—Intimations to the effect that United States Treasury officials are in favor of a move to restore the war excise tax on motor vehicles and to levy a Federal tax on gasoline drew a sharp protest from the American Automobile Association today.

Thomas P. Henry, president of the A. A. A., declared that he would ask the national convention of his organization, which meets in West Baden, Ind., next week, to take a definite stand on the issue of Federal taxation of highway transport.

"No American industry has been harder hit by the economic depression than our great motor industry," said Mr. Henry. "The public, of course, in the final analysis would pay the tax. This would surely be poor medicine for our economic ills. Although Federal aid for roads as a national policy has never been connected with Federal taxes, some Treasury officials have always resented Federal aid. It might be pointed out that in the years 1919-1928 motor vehicle owners contrib-

(Continued on Page 6)

G. M. TRUCK CO. ADDS T-83 PRICED $3,990

Flint, Mich., May 28.—General Motors Truck Company announces its new T-83 truck with a straight rating of 24,000 at a chassis price of $3,990.

The engine is the same as that used in the T-60, T-61 and T-82 models and has a bore of 3¾ inches and a stroke of 5 inches, giving a piston displacement of 331.4. The rated h. p. is 33.7 and the b. h. p. 94 at 2,500 r. p. m.

Service brakes have a larger area, 865 square inches, and the chassis weight is slightly heavier than the T-82, which has the same capacity, being 7,670 pounds. Otherwise the specifications remain essentially the same.

BORG-WARNER DIV. REPORTS RENEWAL OF BIG CONTRACT

Rockford, Ill., May 28.—Renewal of a large blanket contract for universal joints by one of the leading automobile manufacturers has just been made with the Mechanics Universal Joint Company, a division of Borg-Warner Corporation, and brings the company's unfilled orders to the highest point in several weeks.

This was announced today by C. S. Davis, president of the parent corporation.

The Mechanics Universal Joint Company makes universal joints and transmissions of various types that are used as standard equipment on leading makes of cars.

BENDIX SO. BEND PLANT EXPANSION COMPLETED

Chicago, Ill., May 28.—More than a half million square feet of manufacturing space was added in the last year to the Bendix Aviation Corporation plant at South Bend, Ind., according to the architect's report issued today.

The greater part of the additional space is being utilized by the Bendix Stromberg Carburetor Company, which occupies 324,780 feet in a one-story building. The other 175,220 feet has been added to several departments that manufacture brakes, brake testers and brake servicing equipment.

KELSEY-HAYES WHEEL MAY USE BANKERS' FUNDS IN FINANCING

Detroit, May 28.—New financing arrangements are being planned for the Kelsey-Hayes Wheel Corporation to provide for the maturity of $7,300,000 in one-year notes, due August 1, it was reported in financial circles yesterday.

According to the reports, the new plan may take the form of a $7,500,000 loan by bankers interested in the company, rather than any sort of a public refunding issue. The notes sold last summer were understood to have been placed in a few large blocks with banks and other groups connected with the company.

Directors of the company at a meeting in Detroit yesterday, omitted the quarterly dividend of 50 cents due on the common stock at this time.

The reason for the inability of the company to pay the maturing notes is understood to be principally expenditures for the construction of a new plant at Dagenham, England, adjoining the new plant of the Ford Motor Company. It is expected that all the wheel business of the British Ford units and a substantial portion of the Continental Ford plants will be given to Kelsey-Hayes. During the period of construction of the new plant, funds for which were raised by the sale of the notes, domestic business has been smaller, and current profit after charges and dividends has been insufficient to provide for the note maturity.

WHITE CO. OFFERS DELIVERY MODEL ON 136 IN. WHEEL BASE

Cleveland, O., May 28.—A drop-frame truck for department store package delivery service, making it possible for the driver or his helper to step directly from the curb to the floor of the truck, speeding up delivery, was introduced by the White Company at the annual retail delivery convention held in Washington last week.

Powered with a six-cylinder engine, a wheel base of 136 inches, affording short turning radius and flexibility in traffic, this new White, designated as Model 60-K, gives to the department store delivery field a unit particularly adapted to multiple stop service.

An album, containing sixty-six color schemes for department store trucks, was also shown.

REO ENTERS LOWER PRICE TRUCK FIELD WITH 4 AND 6 CYLINDER SPEED-WAGONS

Two New Lines Are Offered on 136 to 160 Inch Wheel Bases and Are Priced $625 for the Four and $725 for the Six

LANSING, MICH., May 28.—Two new speedwagons, in four and six cylinder models, are injected into the low priced field picture, with the announcement of the Reo Motor Car Company's new one and a half ton lines. Both the four and six are available on 136 or 160-inch wheelbase chassis; the longer wheelbase length is at extra cost. The basic chassis price for the four is $625 and that of the six is $725.

Engines have the largest cubic displacement of any one-and-a-half-ton truck in the low-priced field, it is claimed. The styling evident in the Reo passenger line has been incorporated in modified form in the design of the new speedwagon. A large variety of body types is available to satisfy the diversified requirements of modern hauling. A feature of the new models is the cab, which has been designed for appearance as well as to afford comfort for the driver.

The four-cylinder engine has a bore of 3 13-16 in. and a stroke of 4½ in., giving a displacement of 205 cu. in. The rated h. p. is 23.3 in., and the engine develops 51 h. p. at 2,500 r. p. m. The six-cylinder engine has a bore and stroke of 3¾ and 4 in. respectively. Its displacement is 214.7. The rated h. p. is 27.3, and it develops 61 b. h. p. at 3,000 r. p. m. Five main bearings support the 3 in. diam. crankshaft of the smaller engine, while the six has a seven-bearing crankshaft. Both engines have full pressure lubrication. Drilled passages in the connecting rods furnish oil, under pressure, to the hollow piston pins. The cylinder block is of chrome-nickel alloy iron. A fuel pump, Schebler carbureter and Delco-Remy electrical system are used.

(Continued on Page 12)

HUPP STARTS OUTPUT IN CANADIAN PLANT AT WINDSOR, ONTARIO

Detroit, May 28.—Formal announcement of the commencement of manufacturing operations at the company's Canadian plant in Windsor was here today by officials of the Hupp Motor Car Corporation.

While Hupmobile has always had a substantial Canadian business, shipping cars from Windsor, the prospects of greatly increased Canadian business through an exclusive Canadian plant and other possible advantages, particularly with regard to prices, prompted the expansion of the Windsor division of the company.

The first car to be produced in the new factory, a Century Six sedan, rolled from the assembly lines this morning with appropriate ceremonies.

The new Hupmobile plant is located on property owned by the company on Giles Boulevard, near McDougall Avenue in Windsor, acquired years ago in anticipation of

(Continued on Page 6)

Late News Flashes

Washington, May 28.—The St. Louis & San Francisco Railroad has been authorized by the Interstate Commerce Commission to cancel on July 1, 1931, the new low rate of 2 cents per mile on coach fares. The standard rate of 3.6 cents per mile will become effective on that date. The Frisco's rate reduction to the 2 cent fare was in the nature of an experiment to determine whether this move would recover passenger traffic that had been captured by motor bus transportation lines.

* * *

Grand Rapids, May 28.—Since the recent announcement of the rounding out of the De Vaux body line, production has been stepped up to more than 150 units per day.

* * *

Washington, May 28.—President Green of the American Federation of Labor announces that unemployment has been reduced about 1,500,000 since January, when about 6,300,000 persons were idle.

TODAY

Sparks from Detroit.....Page 2
Curtis List of Motor Car Makers Boasts 808 Names.....Page 2
Chevrolet Dealer Keeps Used Car Stock Balanced .....Page 3
Ford Car Sales Gaining; April Tops March by 33%.....Page 3
Dealer Tells of One Stunt That Paid .....Page 3
Editorial: "Bring Back and Come Back" .....Page 4
Engineering News .....Page 11

REFERENCE TABLES

Cumulative March New Commercial Car Registrations..Pages 6, 7
Major Specifications and Mechanical Details of Commercial Cars Pages 8, 9, 10

Sloan Predicts Improved Second Quarter for G. M.

NEW YORK, May 28.—The relationship between earnings of the General Motors Corporation for the second quarter of this year with those of the same period of last year will in all probability make a much more favorable comparison than the relationship between results in the first quarter of the two years, Alfred P. Sloan, Jr., president, said yesterday in issuing the company's balance sheet of March 31 and the consolidated income account for the first quarter.

The balance sheet showed that cash, United States government and other marketable securities held by the company on March 31 amounted to $179,133,114, compared with $179,037,071 at the end of the previous quarter, and with $125,814,939 on March 31, 1930. Net working capital on March 31 was $292,723,601, compared with $281,037,636 on December 31, 1930, and with $267,791,541 on March 31, 1930.

Net sales of the corporation in the first quarter of this year totaled $218,246,772, compared with $289,554,453 in the first quarter of last year.

The consolidated income account of the corporation for the first quarter of this year showed a net income available for the common stock of $26,655,840, equivalent to 61 cents a share. These figures corresponded with a preliminary statement of earnings which was issued a month ago. In the first quarter of 1930 the company's earnings available for the common stock were $42,545,963, equivalent to 98 cents a share.

Discussing the results of the company's operations in the first quarter, Mr. Sloan said: "The financial strength of the corporation at the close of the period bears a favorable relationship to that at the close of the previous period and at the corresponding time a year ago.

"The reduction in earnings, com-

(Continued on Page 10)

Good Balance, Quick Turnover for Used Cars—See Page 3

Curtis List of Motor Car Makes Boasts 808 Names of Cars Built In U. S. Since the Industry Began

Records Show That Few Have Survived the Test and Are Still in Production; Can You Add to the Once Was'es?

By CHRIS SINSABAUGH

DETROIT, May 28.—Automotive Daily News has been asked to co-operate with the Curtis Publishing Company of Philadelphia in the compilation of an accurate list of names of every American automobile brought out since the inception of the industry. This roll call is specifically designed for installation in the Ford Museum at Dearborn—a gift to posterity and as authentic a record as can be compiled after thorough research.

For several months past the Curtis Publishing Company has been engaged in this work. Archives have been probed, old-timers consulted, and as a result of this intensive work the list now includes 808 names of passenger cars. It is thought that few have been overlooked, but to be sure that no one has been skipped Automotive Daily News has been requested to publish the list as it now stands, so that it may be universally read in the industry and checked up.

Readers who recall any names that the Curtis people have not recorded are asked to send to this office any omissions they may note, so when the list is finally turned over to the Ford Museum that it will be as complete as possible. Only names of passenger cars are wanted, and, if possible, the date the company went into business should be included.

How all this came about is interesting. The movement started at the twenty-fifth anniversary celebration of the Society of Automotive Engineers at French Lick. One of the features was an historical exhibition prepared by Fay L. Faurote, which included the roll call, prepared by the Curtis company, which was far from being as complete as it now is. At the meeting was A. J. Humberstone, head of the Ford Museum, who suggested that the list, being of such great historical interest, the proper place for it was in the Ford Museum.

Following the S. A. E. meeting the list, along with other historical data, was shipped to Dearborn, but soon there came a letter from Humberstone saying "After the Battle," as the list was called, could not be found. Investigation that followed disclosed the fact that the list had reached Dearborn, but Henry Ford himself, upon seeing it, had handed it over to an old time employee and asked him to carefully guard it as he thought it most valuable.

Discovery of this led to the suggestion that Curtis Company be allowed more time to check the list and add other names. This was approved by Mr. Ford and since then the research has been going on. As it stands now, the list is tentative and any additional names sent in by readers of Automotive Daily News will be added, provided their authenticity can be verified.

So, readers, read the following and think back. As listed, the names preceded by stars are still in business: Where dates are not given they are not known and those able to fill them in are requested to do so.

1909 Abbott-Detroit
1920 Ace
1904 Acme
1904 Adams Farwell
1922 Adria
1906 Aerocar
1901 Ajax
1925 Ajax
1901 Akron
1907 Albany
1909 Alco
Alden Sampson
1914 Allen
1908 Allen Kingston
Alma
1911 Alpena
1916 Alter
1921 Ambassador
1902 American Elec.
1903 " Gas
1903 " Steam
1901 "
1917 "
*1930 " Austin
" Fiat
1906 " Mors
1908 " Simplex
" Underslung
1910 Amplex
1909 Anchor
1916 Anderson
1908 Angus
1910 Anhut
1901 Apperson
Arbenz
1905 Ardsley
1912 Argo Elec.
Atlantic
1907 Atlas
1911 Atlas Knight
*1903 Auburn
1906 Aurora
1904 Austin
1999 Autocar
1901 Auto Dynamic
1901 Automotor
1903 Auto Vehicle
1906 Babcock Elec.
1901 Bachelles
Badger
1907 Bailey Elec.
1999 Baker
1901 Baldner
1900 Baldwin
1922 Barley
1912 Barnes
1903 Bartholomew
1904 Bates
Bauer
1907 Bay State
Beaver
1920 Beggs
1907 Belden
1915 Bell
1908 Bendix
1917 Benham
1917 Ben Hur
1908 Benner
1902 Berg
1909 Bergdoll
1905 Berkshire
Berliet
1904 Beverly
1915 Biddle
Bimel
1902 Binney-Burnham
1921 Birch
1908 Black
1907 Black Crow
1904 Black Diamond
1903 Blackhawk
1929 Blackhawk
1906 Bliss
1905 Blomstrom
1903 Blood
1900 Bolte
Borland
1913 Borland-Grannis
1908 Boston High Wheel
1915 Bour Davis
1922 Bowman
1920 Bradley
1903 Bramwell
1903 Brazier
1902 Brecht
1905 Breeze & Lawrence
1904 Brew & Hatcher
1916 Brewster-Knight
Briggs-Detroiter
1914 Brighton
1914 Briscoe
1903 Bristol
Broc Electric
Brodesser
1920 Brook
Brown
1908 Brownieka r
1907 Brush
1903 Buckmobile
1907 Cucmobile
1901 Buckeye
1901 Buffalo Electric
1901 Buffalo
1902 Buffum
*1904 Buick
1912 Burg
1908 Byrider
*1902 Cadillac
California
1903 Cameron
1914 Cameron
1917 Campbell
1901 Canda
1902 Capitol
1911 Carhartt
1912 Car Nation
1907 Cartercar
Carthage
1910 Case
1907 Cato
Cavac
1902 Centaur
1901 Century Gas
1901 Century Electric
1901 Century Steam
1908 C. F.
1905 Chadwick
1908 Chalmers
1909 Champion
1913 Chandler
1901 Chapman Electric
1903 Chelsea
*1912 Chevrolet
*1924 Chrysler
1903 Church
1913 Church Field
1903 Cincinnati Steam
Cinco
Cino
1901 Clark
1908 Clark-Carter
1902 Clarkmobile
1902-'19 Cleveland
1920 Climber
1903 Cloughley
1908 Coates-Goshen
1922 Coates Steam
1911 Coey
1907 Colburn
1911 Colby
1909 Cole
1901 Collins Electric
1921 Colonial
1908 Colt
1898 Columbia Electric
1900 Columbia Gas
1916 Columbia
1916 Columbia Knight
1903 Columbus
1917 Comet
1917 Commonwealth
1904 Compound
1901 Conrad
1907 Continental
1903 Corbin
1911 Corbitt
*1929 Cord
1922 Corinthian
1908 Correja
1907 Cosmopolitan
1901 Cotta
1904 Courier
1909 Courier
1922 Courier
1901 Covert
1908 C. P.
1906 Craig Toledo
1912 Crane
1905 Crawford
Crescent
1903 Crest
1901 Crestmobile
1914 Cricket
Crow
1901 Crowdus Electric
1911 Crow-Elkhart
1907 Crown High Wheel
Croxton
1909 Croxton-Keeton
1905 Culver
1901 Cunningham Steam
*1911 Cunningham
1909 Cutting
1907 C. V. I.
1923 D. A. C.
1923 Dagmar
1911 Dalton
1915 Daniels
1901 Darling
1903 Darrow
1902 Davenport
1910 Davis
1909 Decauville
1903 Decker
1906 Deere
1907 De Luxe
1910 Demot
1901 Desberon
1906 De Shaw
1913 De Soto
*1928 De Soto
1909 De Tamble
1900 Detroit
1912 Detroit-Chatham
1909 Detroit-Dearborn
*1907 Detroit Electric
1912 Detroiter
*1931 De Vaux
Diamond T
1925 Diana
Diexel
1914 Dile
1917 Disbrow
1911 Dispatch

(Continued on Page 4)

SPARKS from DETROIT

Few Answer Roll Call

* * *

Some Have Revived

* * *

Racing Recollections

Chris Sinsabaugh—Detroit Editor

WHAT memories the roll call of the industry, carried in another column of this issue of A. D. N., arouse in the minds of the old timers! Of the more than 800 listed, there are few left to answer "Here." "Many are called but few are chosen" seems to apply in this instance.

Forty-five survive today in the passenger car field. Some of them are limping, it is true, because of receiverships and kindred ills, but at the present time they must be carried along as members of the family. Nine of the forty-five manufacturing passenger cars today have been in operation since 1904 or before; these sturdy oaks being: Oldsmobile started in 1897; Packard, 1899; Peerless, 1900; Cadillac, 1902; Franklin, 1902; Auburn, 1903; Ford, 1903; Buick, 1904, and Studebaker, 1904.

* * *

OF those who have gone down for the third time there are many names which sound strangely familiar, like Haynes, Apperson, Winton, Locomobile, Chalmers, Chandler, Maxwell, Lozier, National, the Popes, Stearns, Stevens-Duryea, Stoddard-Dayton and Moon, which we enthusiastically thought, when they were at their zenith, would stick to the crack of doom. But it has been a survival of the fittest.

We note, too, that in several instances old names have been revived. According to this roll call, there have been three Hudsons, one of them a steamer, brought out in 1901, and a Hudson-Franklin, which no one here recalls. The real Hudson, started in 1909, is still with us. There have been two Ajaxes, one in 1901 and the other in 1925. The latter was the low-priced model Nash brought out a few years ago. We find two Lincolns. The one of 1908 we cannot recall. There have been two Overlands, one 1903 and the other 1908. Two Vikings, 1908 and 1929, are listed, there being no connection between the two. And there were two Essexes. The one in 1901 we never heard of.

* * *

INTERESTING to note is that C. W. Matheson, now Graham-Paige sales manager, built the Matheson six in 1903. Vincent Bendix, now head of Bendix Aviation, manufactured the Bendix high wheeler in 1908. The Doble, 1918, was the last steamer introduced into the passenger car field. The Henderson, 1912, operated on kerosene.

One could fill a page with such reminiscences about those who have passed along.

* * *

NOT many of the thousands and thousands of spectators who will jam the stands at Indianapolis tomorrow and watch Barney Oldfield wave the flags that will start the big field in the 500 mile race will recall the first running of the classic in 1911, won by Ray Harroun in a Marmon six at the "astonishing" speed of 74.59 m. p. h.

That inaugural will go down in racing history because of the brilliant array of driving talent brought together. Practically every pilot in it was nationally famous, men like David Bruce-Brown, Bob Burman, Spencer Wishart, Ralph Mulford, Joe Dawson, Ralph De Palma, Hughie Hughes, Howdy Wilcox, Eddie Hearne, Lewis Strang, Herb Lytle, Harry Grant, Caleb Bragg, Teddy Tetzlaff, Charley Merz, Gil Anderson, Johnny Aitken, Arthur Chevrolet, names to conjure with when you start talking of the glories of a day long past.

* * *

SOME think that this 1911 race marked the opening of the two and one-half mile speedway. We old birds know better. It was built in 1909 by four public spirited citizens of Indianapolis, Carl Fisher, Jim Allison, A. C. Newby and Frank H. Wheeler, so that the automobile industry might have what is now the modern proving ground to test out engineering theories and to enable American manufacturers to prep cars that could cross the ocean and compete in foreign racing events. That first track had a macadam surface and the initial meet was of a week's duration, with the card made up of comparatively short events. Before the end of the meet it was clearly demonstrated that macadam was not the proper surface for a race course. Speed tore it to pieces and in places there were ruts so deep that many accidents occured. That settled macadam and the management closed the gates of Speedway Park and kept them shut until a new surface of brick had been laid. That was thoroughly tested out before the 500 mile race for 1911 was announced.

Chevrolet Dealer Keeps Used Car Stock Balanced

Quick Turnovers Result From Showing a Few Models Most Liked; Cars Accepted for Exchange Are Mainly Chevrolets and Fords

WALTER W. WOOD, Chevrolet dealer, Main and Mill Streets, Norristown, Pa., whose dealership is one of the oldest in the territory, has built up an outstandingly successful business from his start in selling Chevrolets in 1915 with a capital of only $2,800. He is trading on the same site on which he began as the lessee of a small store, but long ago purchased the space he occupied and additional properties on either side and in the rear, improved them, threw them into one large sales and service building so that he now has a dealership property of 65-foot frontage and 180 feet in depth.

Improvements in facilities are still going on in this plant, and the service department is being made ready for the installation of new equipment, which will include a hydraulic lift that will come in handy for lubrication, washing and other service work. Five men are employed in the service department and a few weeks ago Mr. Wood introduced the flat rate system of wage payment with satisfactory results.

While the bulk of the service and repair work is done in the large and well equipped shop in connection with the storage department, the yard in the rear is used in the warm weather season for quick service jobs. An extremely popular lubrication job in this plant is one including flushing the crankcase and differential, with free general inspection, at a charge of $2.80. The Chevrolet system of postcards offering special service operations at attractive rates is in active use here. The service manager frequently telephones owners, suggesting they bring in their cars for service. A monthly service letter also is mailed out.

An unusually large stock of replacement parts is kept on hand in bins in an unusually orderly manner, nothing being left out of place for more than a minute during the entire day. Sales in this department are large in volume. On the outer side of a partition of the parts department is a sign calling the attention of those who enter this portion of the building to the fact that car door and ignition keys are made on the premises, and this little service has proved a profitable feature at 35 cents per key.

The dealership has 3,000 numbers, the records running back as far as 1928. The house has its own machine and duplicates keys readily. As customers frequently lose their keys, they appreciate this prompt service.

In 1929 the dealership sold 500 cars and in 1930 it sold 300. In March of the present year, thirty-five cars were sold, and in April forty-seven. Many sales of new cars have been somewhat slow, but used car sales have been brisk. Slow deliveries of new models from the factory have been a retarding influence. Mr. Wood employs five car salesmen and does some selling himself. One of his salesmen, E. T. Herdman, is a member of the "One Hundred Car Club," and was a member, in 1930, of that body when it was known as the "Seventy Car Club," before the number of yearly sales for members was raised to one hundred units as a qualification.

The salesmen call on prospects regarded as particularly "live" daily and, in some cases, where securing the order apparently is very near, more often than that. Owners sold initially by the dealership are called upon every month. Garagemen who sell cars for the house receive a 5 per cent. commission, just as do accredited members of the sales force, and the salesmen themselves pay as much as from $5 to $6 a "tip" leading to a sale.

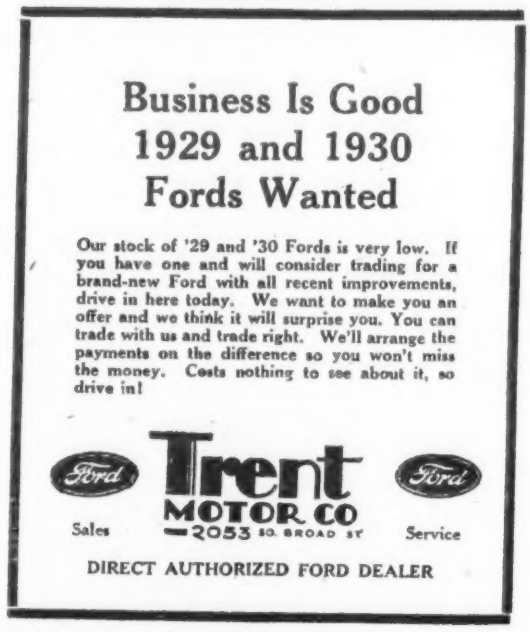
During the recent Chevrolet caravan in this zone Mr. Wood and his salesmen joined in the local territory parade of new models. In Norristown and vicinity Mr. Wood drove at the head of the division in a new de luxe roadster, followed by a music car equipped with radio, a Victrola and two loud speakers, with seven of his new cars in line. Six local sales resulted, apparently, from this parade.

Mr. Wood takes great care to have his used car stock "right," so he can make a quick turnover. He tries to have a well-balanced stock on hand to attract purchasers, striving to have a diversity in models, but of those for which there is the most demand in the locality. He accepts in exchange very few used cars outside of Chevrolets and Fords. He finds that models priced for resale at $75 to $100 are by far the hardest to move out. Good used Chevrolets and other makes accepted that are worth while he reconditions thoroughly, so that they may be resold with a thirty-day guarantee, and he believes in building up the used car department so it will give a minimum of trouble. He advertises used cars in three daily newspapers, using what might be termed "classified display" advertisements.

In them he gives the year of production and style of model, and in a few cases the price, especially when it is low.

One salesman concentrates largely on used car sales, although he also sells new cars. He solicits among factory employees and among friends and acquaintances, of whom he has many. One of his qualifications is that of being an especially good local "mixer."

An Optimistic 'Ad'


Business Is Good
1929 and 1930
Fords Wanted
Our stock of '29 and '30 Fords is very low. If you have one and will consider trading for a brand-new Ford with all recent improvements, drive in here today. We want to make you an offer and we think it will surprise you. You can trade with us and trade right. We'll arrange the payments on the difference so you won't miss the money. Costs nothing to see about it, so drive in!
Ford
Trent
MOTOR CO
2053 SO. BROAD ST
Ford
Sales
Service
DIRECT AUTHORIZED FORD DEALER

THE TRENT MOTOR COMPANY of Trenton, N. J., sounds an optimistic note in its newspaper advertisements, as seen in the above reproduction

Ford Car Sales Gaining; April Tops March by 33%

NEW YORK, May 28.—With registrations available from thirty-five states and the District of Columbia, it is apparent that retail sales of new Ford passenger cars in April showed a large seasonal increase over the preceding month. The total in these states was 58,539, as compared with 44,413 in the same states in March, an increase of 33 per cent.

Ford sales continued, however, to run below a year ago, the April total comparing with 104,168 in April of last year, a falling off of 43 per cent.

For the first four months of the year Ford sales in the reporting states amounted to 156,067, as against 307,808 in the corresponding period of 1930 in the same states, a decline of 49 per cent.

Here are the compartive Ford registrations from the reporting states:

	April 1931	April 1930	March 1931
Alabama	915	1,357	664
Arizona	162	302	214
Arkansas	340	1,197	302
California	5,477	8,115	5,434
Connecticut	1,214	2,058	791
Delaware	236	442	179
Florida	939	1,389	833
Idaho	210	649	192
Illinois	5,179	9,164	3,153
Indiana	2,552	3,622	1,721
Iowa	1,872	4,428	1,445
Maryland	1,133	2,016	890
Mass.	5,311	6,997	3,134
Minnesota	2,129	6,429	2,046
Missouri	1,094	4,380	2,410
Montana	366	455	326
Nebraska	1,203	2,096	721
Nevada	77	117	95
N. Hamp.	576	685	338
New Jersey	2,803	4,189	2,164
N. Carolina	1,415	1,640	962
N. Dakota	464	1,019	254
Ohio	5,095	9,943	3,250
Oregon	603	1,505	460
Pennsy.	5,141	9,905	3,622
R. Island	505	777	426
S. Carolina	642	779	548
S. Dakota	344	813	245
Texas	3,077	5,586	2,514
Utah	283	675	273
Vermont	319	532	123
Virginia	1,365	2,232	1,044
Washington	868	2,215	877
W. Virginia	830	1,642	445
Wisconsin	1,796	3,756	1,320
Dist. of Col.	1,157	1,062	103
Totals	59,755	105,588	44,118

The following table compares the four months sales with last year:

	1931	1930
Alabama	2,179	5,269
Arizona	644	1,343
Arkansas	1,399	4,175
California	18,813	29,968
Connecticut	2,674	4,566
Delaware	617	1,261
Florida	3,575	6,759
Idaho	706	1,761
Illinois	13,053	27,789
Indiana	6,502	13,752
Iowa	5,163	12,269
Maryland	3,118	5,734
Massachusetts	10,753	15,136
Minnesota	5,311	12,551
Missouri	6,540	17,885
Montana	1,129	1,776
Nebraska	3,841	7,460
Nevada	263	400
New Hampshire	1,094	1,212
New Jersey	8,284	12,997
North Carolina	3,622	5,893
North Dakota	1,006	2,129
Ohio	12,636	26,843
Oregon	1,908	3,969
Pennsylvania	12,447	30,451
Rhode Island	1,176	1,869
South Carolina	1,870	3,624
South Dakota	1,207	3,237
Texas	9,224	21,701
Utah	778	1,782
Vermont	524	942
Virginia	4,262	7,676
Washington	2,826	6,659
West Virginia	1,838	3,878
Wisconsin	4,629	10,357
Dist. of Columbia	2,956	2,835
Totals	156,067	307,808

Do Stunts Pay? This Dealer Pulled a Successful One

ALVIN HEINZERLING, president of the Bay Ridge Motor Sales Corporation of 4814 4th Ave., Bay Ridge, L. I., Packard dealer, does not believe that stunts are necessary to sell cars, but a stunt he pulled recently got him considerable publicity that helped him to sell cars.

Heinzerling signed up a prospect while they were several thousand feet in the air, and, as far as he knows, was the first dealer to put through while the parties were in while flying.

There had been considerable discussion in automotive circles in Brooklyn as to the practicability of airplaning in commercial life. The discussion hinged on the question of whether a real contract could be put through while the prties were in flight.

Heinzerling brought the matter to a head soon after, when a prospect he was trying to sign told him he was going on an air trip. The Bay Ridge dealer lost no time in booking passage on the same plane, and when they landed the contract was signed.

Heinzerling, as stated previously, does not go in for stunts. The instance cited was to settle an argument. He does, however, plug his product, but through advertising.

His direct-by-mail campaign sells new cars and service. Newspaper ads are used to boost used car sales.

Although in a small community, he reports business ahead of last year in all branches.

He entered the automobile business at the age of 16, working four years as a mechanic in general repair shops. Later he became foreman for the Willard Storage Battery Company. At the age of 25 he took over the contract for the wholesale distribution of Hartford storage batteries for Brooklyn, Long Island and Staten Island, and at the same time operated four retail battery service stations. A few years later he contracted for the distribution of Moon and Diana cars in Bay Ridge, later adding the Locomobile line.

HERE'S the dealer just after his "stunt" sale

In May, 1926, he closed a contract with the Packard Motor Car Company of New York, organizing the present company known as the Bay Ridge Motor Sales. From that time until the present date the company has been successful in delivering 675 Packard cars in Bay Ridge.

He is a member of the Brooklyn Motor Vehicle Dealers Association, New York Automobile Club, 12.30 Club of Bay Ridge, Brooklyn Chamber of Commerce, American Legion, Empire State Automobile Merchants Association and the National Automobile Dealers Association.

Engineers in a Listening Mood!

At White Sulphur Springs, June 14th to 19th, engineers, production men and other factory officials will gather to discuss important papers and problems in connection with their business.

Reports of the meetings each day, personal news, reprints of papers and news of all the rest of the industry will appear daily in issues of Automotive Daily News. Copies of Automotive Daily News will be distributed to those in attendance and also mailed to thousands who cannot attend. This is bonus distribution and not part of the regular A. B. C. circulation.

Advertise in each S. A. E. issue. No other automotive medium can give service equal to Automotive Daily News.

Forms close two days preceding publication date.

Automotive Daily News

H. A. TARANTOUS, *Business Manager*, 350 HUDSON ST., N. Y. C.

WESTERN OFFICE: Willard R. Cotton, Manager, 333 No. Michigan Ave., Chicago, Ill.
DETROIT OFFICE: Geo. M. Slocum, Manager, Fisher Building, Detroit, Mich.

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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FRIDAY, MAY 29, 1931

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George M. Slocum, Manager Detroit Bureau, 427-8 Fisher Building, Detroit, Mich., phone Empire 3500; Willard R. Cotton, Western Manager, 333 North Michigan Ave., Chicago, Ill., phone Central 5936; Metz B. Hayes, New England Manager, Little Building, Boston, Mass.; Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash. Address ALL advertising and business correspondence to 350 Hudson St., New York City.

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Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Empire 3500. Contributing editor, John C. Wetmore.

Bring Back and Come Back

SENATOR LA FOLLETTE of Wisconsin recently voiced a demand for an extra session of Congress on the ground that it would "afford opportunity now for consideration of a program to stimulate economic recovery."

Remembering the sigh of relief that went up when the last session of Congress adjourned and looking over some of its handiwork, we wonder how stimulating an extra gathering of our national solons would prove. Yet there is work which they could profitably do to help the rest of us crawl out of the pit into which business has fallen. An extra session of Congress could remove some trainloads of iniquity from the tariff law; it could drop some of the ancient bars against co-operation within industries. Either performance would help in bringing business back, but we doubt that any session of Congress would do either.

Perhaps the feeling of the average citizen will let Congress stay out of session as long as possible and give us a chance to try and work things out, without more crazy legislation to hamper our efforts.

And when we speak of "bringing back business to normal," H. H. Franklin recently gave members of his organization a bit of advice, which we can all take to heart. "There is a great difference between 'bring back' and 'come back' when applied to the growth of business beyond current levels," said Mr. Franklin. "The first implies that the individual has something to do about it; the last implies that something is going to happen to make things good again."

Mr. Franklin's point is well taken. One of the factors that has helped to prolong the depression is that so many of us are just sitting around, like Mr. Macawber, "waiting for something to turn up." That is the "come back" attitude. The sooner all of us realize that the job of recovering our lost prosperity belongs to every one of us, the sooner we shall begin to dig in and put on extra effort, and that will finally accomplish the "bringing back" of normal business.

Listen for a minute again to Mr. Franklin: "In my opinion, the responsibility for business improvement is largely up to the individual. It is pinned so closely to salesmanship that I would say that the upturn will come when personal effort is sufficiently increased. The amount of selling work is certainly bound to be more than we put forth in the period of greatest prosperity. It may be more than is within the experience of many salesmen now in business. Something of the old drummer days will have to find its way into salesmanship—more dependence on personal ability and less on indirect influences, in obtaining consideration for your product. And in every sale you make, you have done something to bring back business."

An ounce of work is worth a dozen sessions of Congress.

Co-operative Effort

IT was an extremely interesting experiment that Chicago automobile dealers tried some weeks ago in co-operative effort to promote sales of cars. The dealers raised a fund and advertised individual salons or shows in all showrooms. They had street parades and displays of fireworks along the lake front. The ultimate effect was to make the people of the territory conscious of the fact that the automobile dealers had new models to show. The fuss and fanfare induced a lot of people to visit the showrooms to look, and the result was a great many sales that never would have been made otherwise.

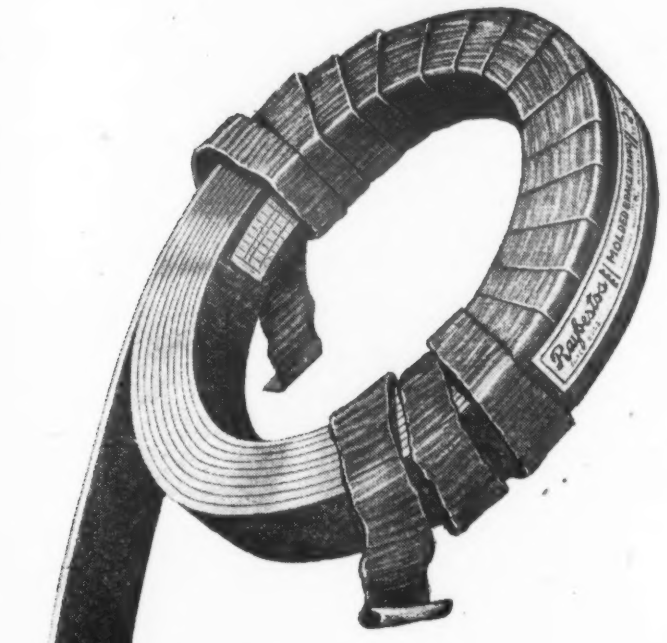
This idea is one that could be utilized in a great many communities. Co-operative effort among the dealers of any city will produce greater publicity effect than any individual activity. Obviously this co-operative effort, coming when dealers have something new to offer, will be more effective than at other times. But the real lesson of the Chicago experiment is that united effort, properly directed, will create profits for all the individual firms contributing faster than they can do it for themselves.

Curtis List of Car Makes Boasts 808 Names

(Continued from Page 2)

1916 Dixie Flyer
1918 Doble Steam
*1914 Dodge
1909 Dodo
1904 Dolson
1906 Dorris
1915 Dort
1919 Douglas
1907 Dragon
1921 Driggs
1916 Drummond
1907 Duer
*1920 Duesenberg
*1920 Dupont
1912 Duquesne
1921 Durant
*1927 Durant
1907 Durocar
1895 Duryea
1902 Dyke
1905 Eagle
1917 Eagle Rotary
1908 Earl
1921 Earl
1902 Eclipse
1906 Economy
1912 Edwards-Knight
1909 Elcar
1903 Eldridge
1916 Elgin
1901 Elmore
1908 E. M. F.
1898 Empire
1914 Empire
1909 Enger
1926 Erskine
1901 Essex
*1917 Essex
1909 Everitt
1908 Everybodys
Ewing
1917 Fageol
1909 F. A. L.
Falcar
1922 Falcon
1926 Falcon-Knight
1902 Fanning
1915 Farmac
1908 Farmobile
1906 Federal
1917 Fergus
1920 Ferris
1907 Firestone-Columbus
1902 Fischer
1910 Flanders
Flanders Electric
1902 Flint
1923 Flint
*1903 Ford
1901 Foster
1906 Fostoria
1911 Four Wheel Drive
1921 Fox
*1902 Franklin
1904 Frayer
1902 Fredonia
1923 Fremont
1902 Friedman
1920 Friend
1907 Fritchle Electric
1914 F. R. P.
1908 Fuller
1908 Fulton
Gaethe
1902 Gaethmobile
1904 Gale
*1919 Gardner
1907 Garford
1900 Gasmobile
1911 Gaylord
1907 Gearless
1903 General
1901 Geneva
1918 Geronimo
1917 Ghent
1904 Gibbs Electric
G. J. G.
Gleason
1903 Glide
Grabowsky
1905 Graham
1903 Graham-Fox
1927 Graham-Paige
*1930 Graham
Gramm
Gramm Logan
1913 Grant
1922 Gray
1903 Great (Pierce-Arrow)
1911 Great Eagle
1911 Great Smith
1911 Great Southern
1908 Great Western
1903 Greeley
1903 Gride
1907 Griswold
1899 Grout
1900 Gurley
1915 Hackett
1916 H. A. L.
1907 Halladay
1905 Hammer
1921 Handley-Knight
1920 Hanson
1916 Harroun
1915 Harvard
1907 Hatfield
1911 Havers
1907 Hay-Berg
1913 Hayward
1901 Haynes
1895 Haynes-Apperson
Hazard
1920 H. C. S.
1908 Heine Velox
1912 Henderson
1911 Henry
1914 Herff-Brooks
1909 Herreshoff
1926 Hertz
1906 Hewitt
1901 Hoffman Steam
1903 Hoffman Gas
1901 Holley
1916 Hollier
1918 Holmes
1905 Holsman
1900 Holyoke
1916 Homer-Laughlin
1909 Haupt
1903 Howard
1901 Hudson Steam
*1909 Hudson
Hudson Franklin
1922 Huffman
*1908 Hupmobile
1911 Hupp Yeats Electric
1900 Imperial
1907 Imperial
1901 International
1908 Inter State
1903 Iroquois
1899 Jackson
1903 Jaxon
1900 Jeffery
1908 Jenkins
1906 Jewell
1922 Jewett
1905 Johnson
1916 Jones
1902 Jones-Corbin
1911 Jonz
1916 Jordan
1908 Keeton
1922 Kelsey
1909 Kenmore
1903 Kensington
1916 Kent
1920 Kenworthy
1911 Kermath
Kermet
1914 Kerns
1901 Keystone
1901 Kidder
1910 King
1906 Kissel
1926 Kleiber
1909 Kline
1900 Knox
1903 Konigslow
1921 Kurtz
1909 K-R-I-T
1902 Kunz
1920 Lafayette
1904 Lambert
1899 Lane Steam
1905 La Petite
*1927 La Salle
1916 Laurel
1902 Law
1899 Leach
1920 Leach Biltwell
1911 Leader
1911 Lenox
1901 Lewis
1913 Lewis
1909 Lexington
1916 Liberty
1908 Lincoln
*1921 Lincoln
1907 Lion
1912 Little
*1930 Littlemac
1902 Locomobile
1904 Logan
1921 Lone Star
1923 Long
1902 Long Distance
Longest
1900 Loomis
1908 Lorraine
1920 Lorraine
1902 Lozier
1906 Luverne
1904 Lyman
1909 Lyon
1914 Lyons-Atlas
1914 Lyons-Knight
1903 Mackie-Thompson
1917 Macon
1915 Madison
1904 Mahoning
1916 Maibohm
1909 Marathon
1905 Marion
1916 Marion-Handley
1900 Marlboro
*1903 Marmon
1903 Marr
1905 Marsh
1920 Marshall
1919 Martin-Wasp
1912 Marquette
1929 Marquette
1906 Marvel
1908 Maryland
1909 Mason
1903 Matheson
1930 Mathis
1904 Maxwell
1904 Maxwell Briscoe
Maytag
1908 McCue
1910 McFarlan
1909 McIntyre
1915 Mecca
1907 Media
1904 Mercedes
1904 Mercury
1909 Mercer
*1931 Mercer
1920 Merit
1906 Meteor
1921 Meteor
1922 Metropolitan
1909 Metz
1903 Michigan
1908 Midland
1908 Mier
1913 Mighty Michigan
1915 Milburn
Miller
1900 Milwaukee
1903 Mitchell
1899 Mobile
1903 Model
Mogul
1903 Mohawk
1905 Moline
1911 Moline
1913 Moline Knight
1906 Monarch
1901 Moncrief
1915 Monitor
1915 Monroe
1906 Moon
1906 Moore
1907 Mora
Morgan
1904 Morse
1911 Motorette
1914 Mount Pleasant
1902 Moyea
1912 B. & F. Moyer
1906 Muncie
1916 Murray
Nance
*1917 Nash
1903 National
1917 Nelson
1903 Neustadt-Perry
1916 New Era
1901 New Home
1903 Nigara
1919 Noma
1902 Northern
1921 Northway
Northwestern
1901 Norton
1912 Norwalk
1912 Nyberg
*1907 Oakland
*1997 1898 Oakman
1916 Ogren
1900 Ohio Elec.
1909 Ohio Gas
1907 Okey
*1897 Oldsmobile
1917 Olympian
1912 Omaha
1900 Orient
1904 Ormond
1909 Otto
1903 Overland
1908 Overland
1914 Owen
1915 Owen-Magnetic
1908 Owen Thomas
1905 Oxford
*1899 Packard
1906 Page
1909 Paige
1906 Palmer
1908 Palmer-Singer
1919 Pan
1903 Pan American
1917 Pan American
Panhard
1906 Paragon
1921 Parenth
1911 Parry
Partin
1913 Partin-Palmer
1908 Paterson
1911 Pathfinder
1907 Payne-Modern
*1900 Peerless
1911 Penn
1917 Pennsy
1907 Pennsylvania
Penn-Thirty
1901 Peoples
1908 Perfection
1912 Perfex
Peru
1909 Petrel
1902 Phelps
Phianna
1911 Pickard
1919 Piedmont
*1902 Pierce Arrow
1916 Pilgrim
1916 Pilliod
1911 Pilot
1898 Pittsburgh
1906 Planche
*1928 Plymouth
1902 Pomeroy
1916 Ponder
1908 Pontiac
*1926 Pontiac

(Continued on Page 7)



$1500 Cash!

For a Name or a Descriptive Letter

FIRST PRIZE FOR BEST NAME $500.00

FIRST PRIZE FOR BEST LETTER $250.00 SECOND PRIZE $150.00 THIRD PRIZE $100.00

For the Hundred Next Best Letters $5.00 Each

Can you suggest a new name for Raybestos *Molded Brake Lining? We also offer prizes for letters telling why Raybestos Molded Lining is *better* than ordinary lining of this type.

We seek a new name for Raybestos Molded Brake Lining. It must be descriptive and suggest the characteristics of this famous lining, just as the name Raybestos Vel-Coe Woven suggests a *woven* lining and velvet-like brake action combined with high coefficient of friction.

Remember that the word "Raybestos" *must* be included and should precede the name you offer. For instance . . . Raybestos (new name here) Molded Lining. First, read the description of Raybestos Molded on this page.

If you also wish to enter "letter" contest, write briefly, stating the advantages of this famous lining. If you are now using Raybestos Molded, relate your experiences with it and how it has solved your own service problems.

Contest open to everyone with the exception of employees of The Raybestos Division or their families.

Name should be original, descriptive, but not generic. It must also be acceptable for copyright, or registration and become the property of The Raybestos Division.

It is not necessary to use or sell Raybestos products in order to enter contest.

When submitting letter, write on one side of page only. Letters not to exceed 200 words.

Contest closes at noon, July 1st, 1931. In case of ties for the best name, full amount of award will be paid to each of the tying parties.

Judges:—E. H. McHugh, Business Mgr., MoToR. Julian Chase, Business Mgr., Automobile Trade Journal. M. F. Judd, Gen. Mgr., The Raybestos Division.

WHAT THIS LINING IS AND WHAT IT DOES

Raybestos Silver Edge Molded Lining is essentially AN ASBESTOS MOLDED LINING. For this reason Raybestos Molded Lining is not an extremely flexible, pliable, flabby molded lining, but an asbestos semi-flexible material, which properly conforms to brake shoes, or bands of any size.

Furthermore, with a high percentage of asbestos, Raybestos Molded Lining withstands high temperatures, does not swell. No scuffing of the surface or fading performance. Maintains uniform coefficient of friction and does not require curing on the brakes.

Reinforced and supported by a woven asbestos backing. This backing has many advantages. Holds rivets securely by reinforcing stocks beneath rivet with long fibre asbestos yarn. Prevents lining from slipping, thus giving greater frictional contact. Reduces tendency to squeal. Ground on the breaking surface. This means close tolerances, perfect "seating" and no resurfacing, or burnishing. Combined in this lining is a sufficient quantity of plastic metal which reduces drum scoring. Delivered in 25 and 50 ft. lengths (rolls). This eliminates waste. Wrapped in protective paper.

Raybestos Molded is ideal for all internal brakes. Meets manufacturer's specifications for original equipment as purchased in segment form and avoids all difficulties incident to the application of segments.

Millions of feet sold during the past 2 years. Used by car dealers throughout the United States. Preferred to any similar lining.

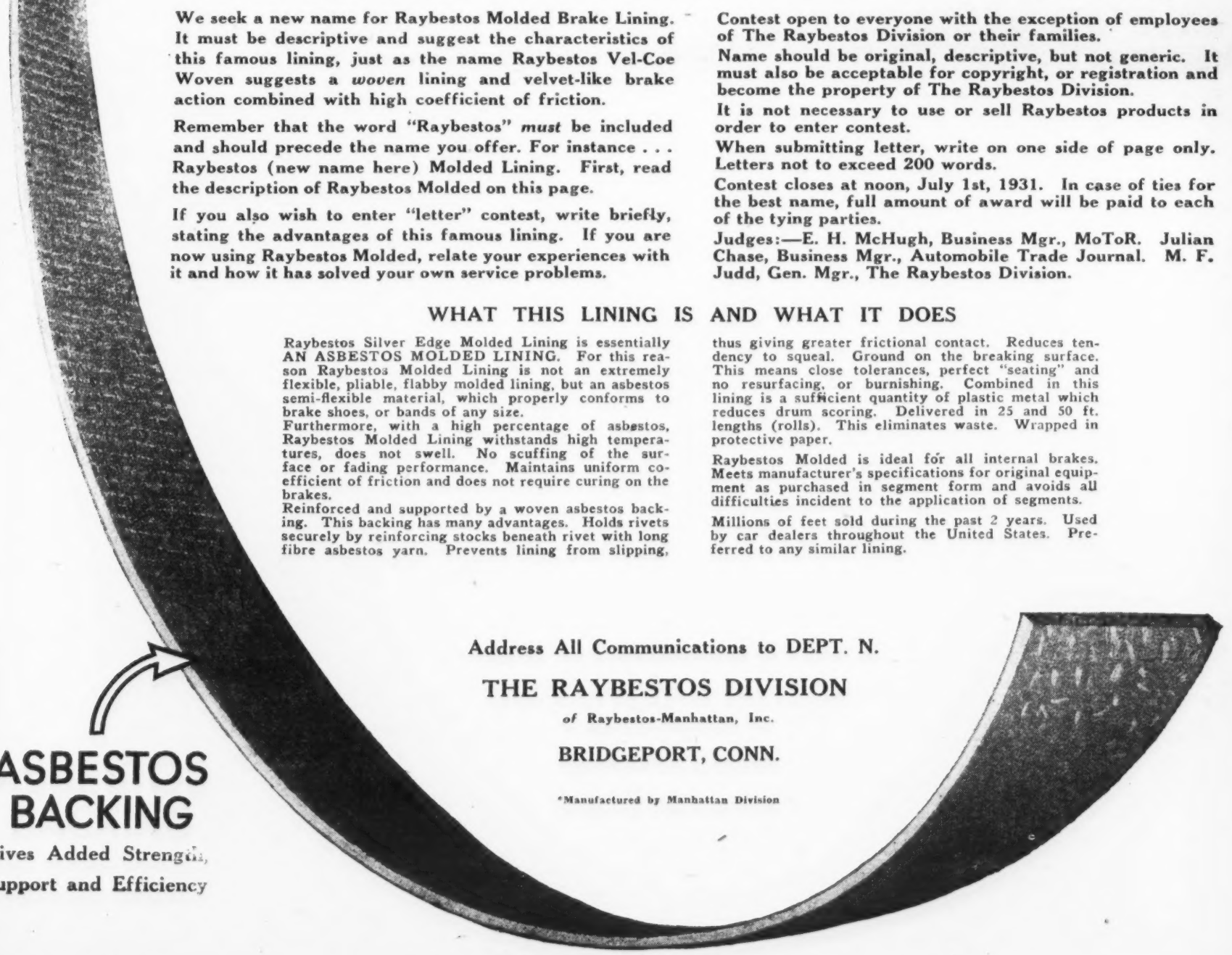
Address All Communications to DEPT. N.

THE RAYBESTOS DIVISION

of Raybestos-Manhattan, Inc.

BRIDGEPORT, CONN.

*Manufactured by Manhattan Division



ASBESTOS BACKING

Gives Added Strength, Support and Efficiency

A. A. A. Protests Proposal For Federal Excise Tax

(Continued from Page 1)

uted $1,081,000,000 to the Federal government in war excise taxes, whereas the total outlay for Federal aid up to June 30 of this year is approximately $1,090,000,000.

"Perhaps the Treasury officials did not stop to find out that special motor vehicle taxes levied by the states have increased 509.6 per cent. in the last ten years, as compared with an increase of 153.3 per cent. in registration and an increase of 45 per cent. in state highway and local road expenditures.

"At the present time the motor vehicle is subjected to twelve different tax levies at the hands of states, counties and municipalities."

LEASES SERVICE STATION

Bayonne, N. J., May 28.—Onofrio Pagano has leased to the Mexican Petroleum Corporation as a site for a service station a plot 61 by 75 feet at the southwest corner of the Boulevard and West 24th Street, Bayonne, for ten years, at a rental of 1¼ cents a gallon (minimum rental $125 a month) and with option to purchase during the first five years for $40,000.

. . . alone they may never close a sale. But they certainly make selling easier—with their reputation for dependable service.

WISCONSIN AXLE CO.
Oshkosh Wisconsin

New Sales Chief Named by Packard

J. W. LORANGER, above, whose appointment was recently announced in Automotive Daily News, and who joined the Packard Motor Car Company after serving with the Dixie Division in France, now becomes general sales manager, succeeding R. E. Chamberlain. Loranger is active in the National Automobile Dealers' Association

OPENS ONE-STOP STATION

Duluth, Minn., May 28.—Firestone Service Stores, Inc., has opened for business in Duluth with a complete one-stop service station at 624 East 1st St. John E. Megson is manager.

D. R. WEEDON APPOINTED NEW GENERAL MANAGER OF RUSSELL MANUFACTURING

Middletown, Conn., May 28.—The Russell Manufacturing Company, manufacturer of Rusco brake linings, announces the appointment of Daniel R. Weedon as treasurer and general manager to succeed William C. Fisher, whose retirement after fifty years' service takes effect June 1.

The retirement of Mr. Fisher concludes a business career of more than usual color and interest. He has contributed a number of the most outstanding improvements in the weaving of narrow belting and elastic fabric, some of which have been responsible for automotive brake lining in its modern form. He has been prominent among the pioneers who developed the art of weaving solid cotton belting on power looms.

Mr. Fisher is not completely severing his connection wtih the Russell Maunfacturing Company, however. His experience and counsel will be available as he will continue to maintain a close connection with the company in an advisory capacity as vice-president.

Mr. Weedon is an electrical-mechanical engineer, whose experience includes seven years as sales engineer with the Westinghouse Electrical Manufacturing Company, later becoming director and general sales manager of Hungerford & Terry, Inc., and president and treasurer of the Holmes Manufacturing Company of New Bedford, Mass.

J. J. HIEMENZ FORMS TWO NEW ORGANIZATIONS

Buffalo, N. Y., May 28.—Joseph J. Hiemenz has acquired the building Heimenz has acquired the building at 602-604 Broadway and has formed two new antomobile servicing organizations. The Dealers' Body and Equipment Company, which will occupy a portion of the building, will engage in the wholesale and retail distribution of automobile and truck bodies and equipment, while the United Motor Equipment Company, of which Mr. Hiemenz is also the head, will occupy another part of the building, supplying the trade with accessories, unit parts and general automotive equipment.

HUPP STARTS OUTPUT IN CANADIAN PLANT AT WINDSOR, ONTARIO

(Continued from Page 1)

a Canadian plant to take care of Canadian business exclusively.

Approximately 30,000 square feet of floor space is devoted exclusively to manufacturing purposes in the new plant.

Charles Miller has been named plant superintendent of the Windsor division of the company, and will have full charge of manufacturing operations in Canada.

REGISTRATIONS presented herewith are complete with the exception of the state of Georgia, which will be considerably delayed due to a new method of handling registrations in that state.

Cumulative New Commercial Car Registration Statistics, March, 1931

Returns for today: LOUISIANA.

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Some of this data has been published previously, but it is given here complete for the convenience of our subscribers. Commercial car registrations do not include buses. In this table 47 states and the District of Columbia. Comparative figures for March, 1930, will be found on Page 7.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	FWD	Fargo	Federal	Ford	G. M. C.	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Alabama			139						1	123	1	10	1			1						1		1			278	Alabama
Arizona			44		2					92	3	8				1					3						153	Arizona
Arkansas			80		8					136	1	10											1				236	Arkansas
California	5		406	2	97				8	1309	29	43	9	2		32		10	17	4	23		13	7	7	72	2095	Calif.
Colorado			96		10					179	14	8				4		1			7			8			327	Colorado
Conn.	3	2	117	5	29				4	222	5	24	19			11				5	9		5	4		5	469	Conn.
Delaware	1		36		2					53	2	9	2			2					1						108	Delaware
Florida		2	125		11				2	217	4	11	2								1		4			2	381	Florida
Idaho			28		5					87	2	7				2								6		2	139	Idaho
Illinois	3	6	470	23	63	1		4	9	655	28	130	3	2		12	1	2	7		22	6	7	9	1	38	1502	Illinois
Indiana		5	417	2	52	1		1	2	450	14	95				4				9	13	3	3	13	2	9	1095	Indiana
Iowa		1	336	4	31	1		1		334	2	79	6			9					13		1	6		5	829	Iowa
Kansas			183	2	18		3			166	6	40		1		3	2				11			5		4	444	Kansas
Kentucky			104	1	18				1	142	8	21	11	1		3					6		1	1		2	320	Kentucky
Louisiana			120		4					170	3	41	5										4		1	1	349	Louisiana
Maine			158		19					244	1	14				5				1	7		1				450	Maine
Maryland	12		150	6	15			1	5	192	7	29	8	2		5				1	4		2	4	2	5	450	Maryland
Mass'setts	20	11	239	1	69				7	752	35	59	12	1	1	24		1	7	6	10		9	4		17	1285	Mass.
Michigan			265	2	39	1			8	625	12	47	3	4	1	13	5			2	4		5	6		11	1053	Michigan
Minn.			437	7	58		3	2	3	527	14	104	1		3	16	2	1			20	2	4	19	4	3	1230	Minn.
Miss.		1	86		2					77	1	12									1						180	Mississip.
Missouri	2	9	655	29	77	2	2	3	7	609	22	111	6	2		10	3	3	4	1	15	3	3	8		9	1595	Missouri
Montana			78		8			1		76	1	28	2			4					4	1	2	3		1	209	Montana
Nebraska			137		25					211	7	32	2	1		1					8	2	2	4		4	436	Nebraska
Nevada		1	11		2					52	1	3									1		1			3	75	Nevada
N. Hamp.		1	86	1	8					103	2	6	3			6				5	3						224	New Hamp
N. Jersey	8	7	283	9	54				5	546	30	42	14	1		7	2	2	2	4	13	1	15	5	1	31	1082	N. Jersey
N. Mexico			29	2	4					62	1	11				1										1	111	N. Mexico
New York	28	55	774	29	177		2	8	15	1526	62	181	109	6	5	36	3	3	8	47	37	1	42	20	1	98	3273	New York
North Car.		1	219		23					247	7	19	1			1							4	2		9	533	North Car.
Nor. Dak.		3	48	1	5					47	2	28									2			2			138	North Dak.
Ohio	4	11	319		48			2	6	557	20	96	7		1	14		1	6	14	19	2	8	26		33	1194	Ohio
Okla.			116	2	16				2	176	3	26	1								1	2	3	1		1	350	Okla.
Oregon			48		8			1	2	120	2	12	8			3			2		3		2	1		6	218	Oregon
Penna.	25	17	542	2	145	4		1	13	960	27	108	35	2	3	28	3		2	15	22	6	24	17	1	23	2025	Penna.
Rhode Isl.	2	4	30	1	14				7	112	4	2	1			10					6			1		1	195	Rhode Isl.
So. Car.			103		14					112	1	5				2							1			5	243	S. Carolina
S. Dakota			65	1	9					59	3	26	2			2		1			9						177	S. Dakota
Tenn.		2	90		8					57	2	12	1			1					2						175	Tennessee
Texas			540		37			1	6	640	7	150	3			5				1	11	3	15			23	1442	Texas
Utah			77		10					124	9	7	4			3					4	1	2			4	245	Utah
Vermont			39		7					43		7				3								3			102	Vermont
Virginia	3	5	215		21	1				242	12	33	2		2		3			1	2		11	2		17	572	Virginia
Wash'ton			100		27	2		1	4	254	5	17	2	1	1	4		1			13		2			13	447	Wash'ton
West Va.			77	6	15					109	6	21		1							7		1	5			248	W. Virginia
Wisconsin		2	341	5	26		5	1	4	433	17	56		1		13		2	2	3	19	2	2	28		11	973	Wisconsin
Wyoming			46		5					61	2	10				4					3	1	2	3		1	138	Wyoming
Dist. Col.	3		34	1	2					93	4	11	1		1	1	1				2		1			2	157	Dis. of Col.
Totals	119	146	9138	144	1347	13	15	28	121	14383	451	1861	286	28	18	306	25	28	57	119	361	37	203	224	20	472	29950	Totals

Curtis List of Car Makes Boasts 808 Names

(Continued from Page 4)

1897 Pope Hartford
1902 Pope Robinson
1901 Pope Toledo
1904 Pope Tribune
1919 Porter
Poss
1907 Postal
1911 Pratt
1903 Premier
1922 Premocar
1902 Prescott
1905 Princess
1907 Pullman
1904 Pungs-Finch
1905 Queen
1920 Raleigh
1900 Rambler
Randolph
1920 R & V Knight
1921 Ranger
1905 Rainier
1903 Rapid
1905 Rauch & Lang
1911 Rayfield
1911 R. C. H.
1913 Read
1901 Reading
1903 Reber
1908 Reeves
1908 Regal
1903 Regas
Reliable-Dayton
1904 Reliance
1901 Remington
Renault
*1904 Reo
1911 Republic
1918 Revere
1922 Richelieu
1908 Richmond
1922 Rickenbacker
1916 Riddle
1908 Rider-Lewis
1899 Riker
1911 Roader
*1916 Roamer
1901 Robinson
1920 Rock Falls
1911 Rogers
1901 Rogers & Hanford
1923 Rollin
*1921 Rolls-Royce
1929 Roosevelt
1915 Ross
1904 Rotary
1904 Royal Tourist
1922 Rubay
1903 Russell
1929 Ruxton
1899 St. Louis
1909 Salter
1904 Sampson
1902 Sandusky
1903 Santos Dumont
1914 Saxon
1917 Sayers
1904 Schacht
1914 Scripps-Booth
1901 Searchmont
1909 Sebring
1908 Selden
1909 Sellers
1906 Senator
1917 Seneca
1921 Severin
1910 S. G. V.
1917 Shad-Wyck
1903 Shain
1909 Sharp-Arrow
1921 Shaw
1906 Shawmut
1903 Shelby
1921 Sheridan
1907 Shoemaker
1906 Silver Knight
1918 Simplex-Crane
1907 Simplicity
1916 Singer
1907 Single Center
1920 Skelton
1900 Skene
1906 Smith
1901 Smith & Mabley
1919 Spacke
1900 Spaulding
1916 Spaulding
1904 Speedway
1908 Speedwell
1921 Spencer
1922 Sperling
1914 Sphynx
1909 Spoerer
1904 Springer
1907 Springfield
1911 Stafford
1902 Standard
1917 Standard Eight
1896 Stanley Steamer
1920 Stanwood
1922 Star
1918 States
1908 Staver
1902 Steamobile
1898 Stearns Steam
1900 Stearns Gas
1911 Stearns Knight
1916 Stephens
1909 Sterling
1923 Sterling Knight
1902 Stevens-Duryea
1916 Stewart
1908 Stilson
1905 Stoddard-Dayton
1911 Stoddard Knight
1902 Storck
1903 Studebaker Electric
1909 Studebaker E. M. F.
1904 Studebaker Gas
1904 Sturtevant
1912 Stutz
1911 Stuyvesant
Suburban
1906 Success
1908 Sultan
1915 Sun
1906 Sunset
1904 Synnestevdt
1922 Tarkington
1901 Taunton
1918 Templar
1921 Texan
1902 Thomas
Thomas-Detroit
1900 Thomson
1903 Tincher
1903 Toledo
1912 Touraine
1903 Tourist
Traveler
1913 Tribune
1911 Triumph
1914 Trumbull
1917 Tulsa
1914 Twombly
1902 Twyford
1902 Union
1902 Upton
1908 U. S.
1905 Vaughan
1909 Velie
1908 Victor
1908 Viking
1929 Viking
1911 Virginian
1914 Vixen
1921 Vogue
1913 Vulcan
Wagenhall
Wahl
1901 Walls
1900 Waltham
1922 Waltham
1903 Walther
1905 Walworth
1903 Ward Leonard
1911 Warren
1909 Warren-Detroit
1901 Warwick
1909 Washington
1920 Wasp
1904 Waverly Electric
1904 Wayne
1903 Welch
Welch-Detroit
Welch-Pontiac
1910 Westcott
1926 Whippet
1902 White Steam
1909 White
1911 Whiting
1903 Whitney
1902 Wick
1909 Wilcox
1902 Wildman
1922 Wills Ste. Claire
*1913 Willys-Knight
1918 Willys Six
*1930 Willys
1929 Windsor-White Prince
1921 Winther
1897 Winton
1907 Wolf
1904 Wolverine
1927 Wolverine
1901 Woods
1918 Woods
Woods Modillette
1903 Yale
1905 York
1903 Zentmobile
1909 Zimmerman

OPENS BRANCH STORE

Buffalo, May 28.—Noah's Ark Auto Accessories, Inc., of Rochester, has opened a branch store at 721 Main St., Buffalo, with Meyer Ravin as manager.

VALUE UNEQUALED FOR TRUCK BUYERS

Most buyers of Motor Trucks are adequately equipped by reason of their experience, to specify certain qualifications for their trucks.

BROCKWAY - INDIANA'S principle of design, manufacture and assembly solves the Truck Buyer's problems and permits him to match his Transportation units to the job; no penalty in time or money because his requirements demand specialized equipment.

BROCKWAY-INDIANA TRUCKS

BROCKWAY MOTOR TRUCK CORP.,
Cortland - - - - New York

Cumulative New Commercial Car Registration Statistics, March, 1930

This table is repeated for comparative purposes only. March, 1931, figures will be found on Page 6.

States	Autocar	Brockway-Indiana	Chevrolet	Diamond-T	Dodge	Essex	FWD	Fargo	Federal	Ford	G. M. C	International	Mack	Paige	Relay	Reo	Republic	Rugby	Sterling	Stewart	Studebaker	Whippet	White	Willys	Willys-Knight	Miscellaneous	Totals	States
Ala., 1930			230		2					215	3	18	2			2					1		1				473	Ala., 1930
Ariz., 1930			62		10			2		131	3	2		1		4		2		2	1	1	1	2	1		225	Ariz., 1930
Ark., '30			118		9					149	9	26	2	1		2		1					5	2			324	Ark., 1930
Cal., 1930	16		489	2	121	2		6	17	1366	43	43	21	3		62	3	6	16	2	8	3	27	4	7	128	2395	Cal., 1930
Col., 1930		1	98		9			5	1	231	7	14		1		8		2					4	9		10	400	Colo., '30
Conn., '30	8	4	108	5	43	4		5	8	253	14	31	17	3	2	23	1		1	9	4		9	2	1	12	567	Conn., '30
Del., 1930	9	4	47		3					60	6	6	2			1				2							142	Del., 1930
Fla., 1930	1	5	123		6					276	7	10	3			6							2	4	1		444	Fla., '30
Idaho, '30			50		4					94		6	8			2		2					1	1		3	171	Idaho, '30
Ill., 1930	5	9	723	77	71	1		9	16	944	61	218	24	2	5	35	2		15	6		21	25		22	95	2386	Ill., 1930
Ind., 1930		15	604	13	47	1		3	5	817	36	113		2	7	32		1		16	3	9	7	13	3	10	1757	Ind., 1930
Iowa, '30			458	6	24			1	1	401	14	115	2			12	1	1			2	4	5	16	5	8	1076	Iowa, 1930
Kan., '30		2	274	2	21	1		4		276	5	40	1	1		2	1	1		2	2	4	2	12	3	2	658	Kan., 1930
Ky., 1930		6	166	2	14	2		3		202	14	46	2			4	1				2		9	2	1	10	486	Ky., 1930
La., 1930			170		24					223	4	30	2			3							1	3	1		461	La., 1930
Me., 1930	1	9	170	1	19	2				167		8	1	1		7						1	2	1	1		391	Maine, '30
Md., '30	9	13	221	12	26	2		3	14	356	21	44	15	1		20	2	1	2	6	7	3	14	2		15	809	Md., '30
Mass'setts	30	16	266	12	88	9		10	16	663	38	66	35	2		41	1	1	8	13	5	2	11	3	2	10	1348	Mass., '30
Mich., '30	1	2	418	4	60	4		3	19	1022	49	59	13	2		22	4	2			2	4	4	6	1	16	1717	Mich., '30
Minn., '30		2	291	4	31			3	3	422	11	70			1	18		2			2	4	6	8	4	7	889	Minn., '30
Miss., '30			242		13					261	10	26	3			1		1				4	3	1			565	Miss., 1930
Mo., 1930	9	23	1111	24	120	1		12	16	1228	47	208	5	8	1	30	6	4	1	8	11	43	9	38	5	43	3011	Mo., 1930
Mont., '30			98		3			3	1	135	5	43	1			4		2				6	1	6		1	309	Mont., '30
Neb., 1930			228	2	14			1		263	8	39				1		1		1		6		11	1	2	578	Neb., 1930
Nev., 1930			11		20					45	5	1	4			1		1	2							1	91	Nev., 1930
N. H., '30		5	65		5					91	1	8	2			6				2						1	186	N. H., 1930
N. J., 1930	3	31	367	6	60	2		8	8	675	34	46	83	3	2	28	1	1	11	5	10	4	14		7	39	1448	N. J., 1930
N. M., '30			67		9			1		62	2	1											3	2			147	N. M., 1930
N. Y., '30	28	134	851	47	150	10		12	22	1750	167	130	85	5	3	80	1	4	24	106	10	16	75	18	3	70	3801	N. Y., 1930
N. C., '30	8	1	240		23	1				239	4	47	2			9					1	1	11	1		1	589	N. C., '30
N. D., '30			68	3	5			4		80	2	34				1		1				2		5		1	206	N. D., 1930
Ohio, 30	6	16	493	5	57	3		9	9	856	59	109	5		2	32	4	4	4	9	1	25	50	10	8	37	1813	Ohio, '30
Okla., '30	7	3	329	4	41	1		4	4	333	30	49	8	1	1	4					1	8	5	10	1	6	850	Okla., '30
Ore., '30	3		117		9			1	3	211	6	14	4			9		2			1	1				6	387	Ore., 1930
Pa., 1930	41	37	725	15	174	13		14	20	1421	63	171	65	11	18	52	6	4	17	63	13	19	32	6	2	42	3044	Penn., '30
R. I., '30	5	3	72		15				4	93	9	8	5		1	8			1		2	2	8	1			237	R. I., 1930
S. C., '30			129		9			1		121	4	3	1			1	1					1	2				273	S. C., 1930
S. D., '30			132		10			2	1	123	4	65	6			12		1				2		6	2	4	370	S. D., '30
Tenn., '30			107		18				6	136	13	27	5			2	2			1	2	1	2				322	Tenn., '30
Texas, '30		7	782		35	3		9	3	889	21	132	3	3	1	19				1	2	5	17	12	1	5	1950	Texas, '30
Utah, '30			75		7					119	7	11				8		2				1	2			2	234	Utah, '30
Vt., 1930			29	2	10			1		92		11				5								4			154	Vt., 1930
Va., '30	5	21	540		37			1	9	506	16	41	2			13	6			3		2	12	5		15	1234	Va., '30
Wash., '30			189		37			7	5	399	22	33	9			8		7	1		2	2	14	1		42	778	Wash., '30
W. V., '30		5	128	3	20	1		3		195	17	32			1	10				1			1	2	2	3	424	W. Va., '30
Wis. '30		4	482	11	36	1		5	14	543	22	80		1		24		1	3	7	2	12	4	18	2	26	1298	Wis., 1930
Wyo., '30			22		8			1		57		4												1	1		94	Wyo., 1930
D. C., '30		1	34	2	6				3	63	7	3			1	8							1			2	131	D. C., 1930
Totals	195	379	12819	264	1583	64	*	156	228	19254	932	2341	448	52	46	681	43	58	106	265	97	221	404	245	87	675	41643	Totals

*Carried in the Miscellaneous Column.

Major Specifications and Mechanical Details of 1931 Commercial Cars

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Cam-shaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
*Am La France Chief	2½	3650	Own	L	6	3¾x5	331.0	33.7	65@2100	G	G & O	Borg	Spic	Ross	Str	Vac	DR	Own	4	Tim	Wo	31.2	B4IM	—	156	6200	32x6	32x6D
*Am. La France Chieftain	3-4	5500	Own	L	6	4⅛x5⅛	411.0	40.8	75@1800	G	G & O	Borg	Spic	Ross	Zen	Vac	DR	Own	4	Tim	Wo	28.8	B4IM	—	175	7200	36x8S	36x8D
Am. La France Big Chief	6	6725	Own	—	6	4½x6	——	48.6	50@1200	—	—	—	—	Zen	Vac	DR	Own	4	Own	2 R	32.8	——	—	226	10600	40x8S	40x8SD
Austin	400	475	Own	L	4	2.2x3	45.6	7.8	13@3000	G	Hex	Rock	Spic	Own	Til	Gra	Aut	W-G	3	Sal	Sp	5.25	O4M	76.5	75	1210	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Br-L	4	Own	Sp	27.9	LO4ID	460	150	5060	34x7	34x7
Autocar D	2-2½	3500	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	44.0	LO4ID	460	150	5300	34x7	34x7D
†Autocar SH	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	44.0	O2IM	328	157	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	44.0	O2IM	328	157	6860	34x7	34x7D
†Autocar H	3	4100	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	48.6	O2IM	328	114	6770	34x7	34x7D
†Autocar HS	3½	4600	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2 R	54.3	O2IM	516	114	7900	40x8	40x8D
†Autocar SHS	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	54.3	O2IM	516	157	8180	40x8	40x8D
Autocar SCHS	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	41.2	OL4IH	574	174	7900	36x8	36x8D
Autocar N	3-3½	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101.1	LO4ID	602	192	8900	36x8	36x8D
Autocar NCH	3-3½	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	101.3	LO4ID	602	192	9300	38x9	38x9D
Autocar TEA	3-3½	5350	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2 R	51.7	O2IM	516	172	9500	42x9	42x9D
Autocar TFA	3½-5	6100	Own	L	6	4¼x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2 R	51.7	O2IM	516	172	9500	42x9	42x9D
Autocar C	3½-5	5500	Own	L	6	4¼x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Br-L	7	Tim	Wo	94.0	LT4DV	674	173	11000	36x7S	40x8SD
Autocar F	7½	6800	Own	L	6	4¼x4¾	453.0	48.6	101@2400	G	Own	Br-L	Spic	Ross	Str	Vac	DR	Br-L	7	Tim	Wo	100.0	T6IA	720	171	13000	36x8	36x8D
*Autocar G	10	9000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	—	—	Spic	——	Str	Vac	DR	—	4	Own	2 R	54.3	OL4IH	574	174	7990	36x8	36x8D
Autocar NA	22000	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	—	—	Spic	——	Str	Vac	DR	—	4	Own	2 R	54.3	OL4IH	574	192	8160	36x8	36x8D
Autocar NB	22000	4700	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	—	—	Spic	——	Str	Vac	DR	—	4	Own	2 R	54.3	OL4IH	574	218	8320	36x8	36x8D
Autocar NC	22000	4850	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	—	—	Spic	——	Str	Vac	DR	—	4	Own	2 R	54.3	OL4IH	574	242	8480	36x8	36x8D
Autocar ND	22000	4950	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	—	—	Spic	——	Str	Vac	DR	—	4	Own	2 R	54.3	OL4IH	574	242	8480	36x8	36x8D
Brockway 60	*6000	995	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	3	Col	Sp	19.8	B4IM	297	132	3200	30x5	30x5
Brockway 65	6500	1195	Con	L	6	3⅜x4⅝	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	3	Col	Sp	21.3	C4IM	244	137	3400	30x5	30x5
Brockway 75	7500	1290	Con	L	6	3⅜x4⅝	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	3	Col	Sp	25.6	C4IM	244	137	3450	32x6	32x6
Brockway 75	9000	1525	Con	L	6	3⅜x4⅝	248.2	27.3	65@2700	C	G & O	Borg	Spic	Ross	Zen	Vac	Aut	Br-L	4	Col	Sp	20.9	C4IM	292	149	4050	32x6	32x6
Brockway 90	12000	1990	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	31.3	L4IH	353	156	5200	32x6	32x6D
Brockway 120	14000	2495	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	35.3	L4IHV	356	156	5500	32x6	32x6D
Brockway 140	14000	2495	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & G	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	46.2	L4IHV	356	170	6200	32x6	32x6D
Brockway 141	17000	2935	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	46.6	L4IHV	380	170	6800	32x6	34x7D
Brockway 170	17000	3160	Con	H	6	4⅛x4¾	380.9	40.8	89@2400	C	G & O	—	Spic	Ross	Zen	P	Aut	—	5	Wis	2 R	45.3	L4IHV	380	170	7200	34x7	34x7D
Brockway 175	17500	3660	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	G & O	—	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	49.5	L4IHV	471	170	7500	34x7	34x7D
Brockway 195	19500	3820	Con	H	6	4⅛x4¾	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	78.6	T2IMV	471	168½	7625	34x7	34x7D
Brockway 190	19000	4185	Con	H	6	4⅛x4¾	380.9	40.8	89@2400	C	Long	Borg	Spic	Ross	Zen	P	Aut	Br-L	4	Wis	2 R	50.7	L4IHV	546	170	8200	36x8	36x8D
Brockway 220	22000	4560	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Zen	P	Aut	Br-L	4	Tim	Wo	63.7	LT4IVA	666	182	10000	40x8	40x8D
Brockway 250	25000	5950	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	95.0	T4IA	676	182	10750	38x7P	40x14S
Brockway 290	30000	7250	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	90.9	T4IA	804	212	14000	38x7P	36x10S
*Brockway 640	40000	9700	Con	L	6	4¾x5¾	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	90.9	T4IA	804	212	14000	38x7P	36x10S
Chevrolet	½	355	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	3	Own	Sp	13.6	O4IM	101	109	1880	19x4.75	19x4.75
Chevrolet	1½	590	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O4IM	170	157	2890	30x5	30x5D
Chevrolet	1½	520	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	——	—	131	2560	30x5	32x6
Commerce Series S 11	1	1600	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Col	Sp	25.5	L4IH	297	142	3900	30x5P	30x5P
Commerce Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Commerce Series 40	1½	2990	Bud	L	6	3⅜x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Commerce Series S 11	2	2030	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4500	32x6P	32x6D
Commerce Series 40	2	3240	Bud	L	6	3⅜x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4900	32x6	36x6D
Commerce Series 40	2	3240	Bud	L	6	3⅜x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	5100	36x6P	36x6D
Commerce Series 40	2½	3240	Bud	L	6	3⅜x5	309.6	31.5	64@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7000	36x6P	38x7D
Commerce Series 60	2½	4580	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	63.0	L4IH	584	175	7100	36x6P	38x7D
Commerce Series 60	3	4680	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8200	36x6S	36x6S
Commerce Series 80	3½	5250	Bud	L	6	4⅛x5⅛	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8400	36x6S	36x14S
Commerce Series 80	4	5330	Bud	L	6	4⅛x5⅛	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	9600	36x6S	40x14S
Commerce Series 100	5	5830	Bud	L	6	4⅛x5⅛	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	95.0	——	—	175	9600	36x6S	40x14S
Day Elder 60	1	1095	Con	L	6	3⅜x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	36.3	B4IM	241	135	3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con	L	6	3⅜x4⅝	248.3	27.3	65@2700	C	Per	Borg	Spic	Ross	Zen	P	DR	W-G	4	Tim	Sp	42.3	L4IH	229	135	3750	20x6.00B	20x6.50DB
Day Elder 110	2	2095	Con	L	6	3⅜x4⅝	248.3	27.3	65@2700	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	44.9	L4IH	306	156	4600	20x7.00B	20x7.00DB
Day Elder 130	2½	2895	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Sp	40.7	L4IH	354	150	6400	20x7.50B	20x7.50DB
Day Elder 160	3	3695	Con	H	6	4 x4⅛	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	36.1	L4IH	398	156	6600	20x7.50B	20x9.00DB
Day Elder 190	4	4295	Con	H	6	4 x4½	339.3	38.4	82@2400	C	Per	Br-L	Spic	Ross	Zen	P	DR	Br-L	4	Tim	Wo	43.5	L4IHV	489	156	7400	20x9.00B	20x9.00B
Day Elder 240	5	5500	Con	H	6	4⅜x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	50.8	L4IHV	520	162	9300	38x9P	38x9DP
*Day Elder 285	8	6000	Con	H	6	4⅜x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	71.2	L6IHV	674	164	12000	20x8.25B	20x8.25DB
*Day Elder 345	10	7500	Con	H	6	4⅜x4¾	427.5	45.9	100@2600	C	Per	Br-L	Blo	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	79.9	T4rIA	490	164	12500	20x9.00B	20x9.00DB
*Day Elder 492	12	9000	Con	L	6	4¾x5¾	611.4	54.2	127@2300	G	Per	Br-L	Blo	Ross	Zen	P	DR	Br-L	7	Tim	Wo	84.6	T4rIA	490	164	14000	20x9.75B	20x9.75DB
Diamond T 216	1½	695	Her	L	6	3⅜x4¼	228.0	27.3	56@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	——	L4IH	252	135½	3130	20x6.50B	20x6.50B
Diamond T 291	1½	1325	Her	L	6	3½x4½	268.0	29.4	60@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	——	L4IH	279	156¼	4500	20x6.50B	20x6.50DB
Diamond T 303	2-2½	1585	Her	L	6	3¾x4½	298.0	33.7	67@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Tim	Sp	——	L4IHV	350	159¾	5000	20x7.00B	20x7.00DB
Diamond T 551	2½-3	2050	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Wis	2 R	——	L4IHV	408	176½	6400	20x8.25B	20x8.25DB
Diamond T 584	3	2375	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	408	184	6400	20x8.25B	20x8.25DB
Diamond T 506	3	3000	Her	L	6	4¼x4½	383.0	43.3	85@2300	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	499	169	7500	20x9.00B	20x9.00DB
Diamond T 603	3-4	2975	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	L4IHV	499	187½	7500	20x9.00B	20x9.00DB
Diamond T 606	3-4	3440	Her	L	6	4½x4¾	453.0	48.6	100@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	——	W41	552	178	8300	22x9.75B	22x9.75DB
Diamond T 750	4-5	4100	Her	L	6	4⅝x5¼	529.0	51.3	——	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Own	Wo	——	L6IHV	571	189½	8300	36x8P	36x8DP
*Diamond T 801	4	4140	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	190	11000	34x7P	34x7DP
*Diamond T 1200	6	5600	Her	L	6	4½x4¾	453.3	48.6	100@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	190	11700	36x8P	36x8DP
*Diamond T 1600	8	6220	Her	L	6	4⅝x4¾	479.0	51.3	104@2400	G	G & O	Cov	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	194	12500	36x8P	36x8DP
*Diamond T 1601	8	7500	Wak	L	6	5 x5¾	677.4	60.0	127@2000	G	G & O	Br-L	Spic-Blo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	——	T4IA	238	194	12500	36x8P	36x8DP
Dodge Bros. UF 10	½	515	Own	L	6	3¼x4¼	196.0	21.0	48@2800	G	Fed	Borg	Own	W-G	Car	P	DR	Own	3	Own	Sp	14.2	L4IH	114	109	1925	19x5.00	19x5.00
Dodge Bros. F 10	½	695	Own	L	4	3¼x4¼	211.5	25.3	66@3200	G	Fed	Borg	Spic	Ross	Car	Vac	DR	Own	3	Own	Sp	14.2	L4IH	114	109	1975	19x5.25	19x5.25
Dodge Bros. U 1	¾	435	Own	L	4	3⅜x4¾	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Car	Vac	NE	Own	4	Own	Sp	36.8	L4IH	189	124	2260	20x5.50B	20x5 50B
Dodge Bros. DA 1	¾	795	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Fed	Borg	Spic	Han	Car	Vac	NE	Own	3	Own	Sp	36.1	L4IH	189	124	2360	20x5.50	20x5.50
Dodge Bros.	1	795	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	3	Own	Sp	33.4	L4IH	205	133	2590	20x6.00	32x6
Dodge Bros.	1	895	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Fed	Borg	Spic	Han	Zen	Vac	NE	Own	4	Own	Sp	37.1	L4IH	205	133	2690	20x6.00	32x6
Dodge Bros. UF 30	1½	595	Own	L	4	3⅜x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	3	Own	Sp	32.1	L4IH	120	136	2581	20x6.00	32x6
Dodge Bros. UF 31	1½	670	Own	L	4	3⅜x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	32.1	L4IH	229	165	2757	20x6.00	32x6
Dodge Bros. F 31	1½	770	Own	L	6	3¼x4¼	211.5	23.4	66@3200	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	3	Own	Sp	32.1	L4IH	229	165	2807	20x6.00	32x6
Dodge Bros. F 30	1½	695	Own	L	6	3¼x4¼	211.5	25.3	66@3200	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	L4IH	120	136	2631	20x6.00	32x6
Dodge Bros. F 35	1½	1425	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	L4IH	311	140	3780	20x6.00	20x6.00D
Dodge Bros. F 36	1½	1485	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	G	Long	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	L4IH	311	165	3972	20x6.00	20x6.00D
*Dodge Bros. F 40	2	1995	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	L4IH	350	150	5173	20x6.50	20x6.50D
*Dodge Bros. F 41	2	2085	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	L4IH	350	165	5211	20x6.50	20x6.50D
Dodge Bros.	3	1845	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	L4IH	382	135	4235	32x6	32x6D
Dodge Bros.	3	1895	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	41.4	L4IH	382	165	4520	32x6	32x6D
Dodge Bros.	3	1945	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	L4IH	382	185	4715	32x6	32x6D
Dodge Bros. F 60	3	2645	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	L4IH	416	146	5543	32x6	32x6D
*Dodge Bros. F 61	3	2575	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	L4IH	416	170	5789	32x6	32x6D
*Dodge Bros. F 62	3	2695	Own	L	6	3⅜x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	L4IH	416	195	5901	32x6	32x6D
Essex Com.	¾	445	Own	—	6	2¾x4½	——	18.2	——	—	—	—	—	——	Mar	Vac	Aut	Own	3	Own	Sp	17.8	——	—	110	1930	30x5	31x5.50
Federal D	1½	795	Con	L	4	3⅞x4¼	200.5	24.0	48@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	377	131	3280	20x6.00	32x6
Federal E 6	1½	895	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	34.6	L4IH	377	132	3330	20x6.00	32x6
Federal F 7	1½	1525	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	Own	4	Tim	Sp	29.2	L4IH	414	132	3810	30x5	30x5D
Federal A 6	2	1855	Con	L	6	3⅜x4⅝	243.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Cla	Sp	38.5	L4IH	450	151	4635	32x6	32x6D
Federal A 6 T	2½	2185	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Sp	41.3	L4IHV	659	151	5185	32x6	32x6D
Federal A 6 T W	2½	2360	Con	L	6	3⅜x4⅝	248.0	27.3	64@2500	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	42.0	L4IHV	659	151	5185	32x6	32x6D
*Federal D S W	2½-3	1050	Con	L	4	3⅞x4¼	200.5	24.0	48@2500	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	3980	20x6.00	32x6
*Federal E 6 S W	2½-3	1150	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Spic	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	145	4030	20x6.00	32x6
Federal T 10 B	2½-3	2740	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	44.5	L4IHV	659	165	6645	34x7	34x7D
Federal T 10 W	2½-3	2915	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Wo	44.0	L4IHV	659	165	6645	34x7	34x7D
Federal T 10 D R	2½-3	2915	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	2 R	45.6	L4IHV	659	165	6645	34x7	34x7D
Federal U 6	3-3½	3860	Con	H	6	4 x4½	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Str	P	DR	Br-L	7	Tim	Wo	64.6	L4IHV	676	165	7315	34x7	34x7D
Federal U 6 D R	3-3½	3860	Con	H	6	4 x4½	339.0	38.4	85@2200	C	Long	Borg	Pet	Ross	Str	P	DR	Br-L	7	Tim	2 R	69.6	L4IHV	767	165	7315	34x7	34x7D
Federal 4 C 6 A	4-5	4735	Con	H	6	4⅛x4¾	381.0	40.8	90@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2 R	80.6	L4IHV	894	192	8460	36x8	36x8D
Federal 4

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE EIGHT)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
General Motors T 42	*15000	1845	Buick	H	6	3 7/8x4 3/8	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	Sp	33.4	54IM	524	141	4725	34x7P	34x7DP
General Motors T-44	*16000	2095	Buick	H	6	3 7/8x4 3/8	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	2 R	40.9	B4IM	524	141	5005	32x6P	32x6DP
General Motors T-51	*19000	2565	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	Sp	40.6	B4IM	574	155	6100	34x7P	34x7DP
General Motors T-55	*19000	2690	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Eat	2 R	50.8	B4IM	574	155	6150	34x7P	34x7DP
General Motors T-60	*22000	3035	Buick	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Mun	4	Tim	Wo	52.5	B4IM	793	154	6925	34x7P	34x7DP
General Motors T-61	*22000	3445	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Spic	Sag	Str	P	DR	Mun	4	Tim	Wo	52.5	B4IMV	685	154	6825	20x9.00B	20x9.00DB
General Motors T-82	*24000	3795	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	—	Pet	Sag	Str	P	DR	Mun	12	Tim	Wo	143.0	B4IMV	865	155	7500	20x9.00B	20x9.00DB
General Motors T-85	*26000	5600	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	G	Long	Own	Spic	Sag	Str	P	DR	Ful	4	Tim	2 R	53.3	B4IM	665	171	10350	20x9.75B	20x9.75DB
†General Motors T-90	*28000	5285	Own	H	6	3 3/4x5	331.4	33.7	94@2500	G	Long	Own	Pet	Sag	Str	P	DR	Mun	12	Tim	Wo	129.0	B4IA	670	185	9400	20x7.50B	20x7.50DB
†General Motors T-95	*34000	7545	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	G	Long	—	Spic	Sag	Str	P	DR	Ful	4	Tim	Wo	51.3	B6IA	—	189	13250	34x7P	34x7DP
†General Motors T-96	*34000	7195	Own	H	6	4 1/4x5 1/2	468.0	43.3	115@2200	G	Long	—	Spic	Sag	Str	P	DR	Ful	4	Tim	2 R	51.1	B6IA	—	189	13250	34x7P	34x7DP
Gramm A X 4	1	795	Con	L	4	3 7/8x4	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3300	20x6.00	20x6.50
Gramm A X 6	1	895	Con	L	6	3 3/8x4	214.0	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3550	20x6.00	20x6.50
Gramm B X 4	1 1/2	895	Con	L	4	3 7/8x4 1/4	200.4	24.0	50@2800	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3475	20x6.00	20x6.00D
Gramm B X 6	1 1/2	995	Con	L	6	3 3/8x4	214.7	27.3	61@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	36.3	L4IH	380	131	3725	20x6.00	20x6.00D
Gramm B	1 3/4	1495	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2900	G	Per	Own	Blo	Ross	Zen	Vac	Aut	Cov	4	Tim	Sp	54.3	L4IH	278	140	4150	20x6.50	20x6.50D
Gramm C	2	1795	Lyc	L	6	3 3/8x4 1/2	278.6	31.5	82@2600	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	31.0	L4IH	353	160	4800	20x7.00	20x7.00D
†Gramm C X	2	1095	Con	L	4	4 1/8x4 1/4	227.0	27.2	55@2600	G	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	3900	20x6.50	20x6.50D
Gramm C X	2	1295	Con	L	6	3 3/8x4 3/8	248.2	27.3	70@3000	C	Per	Jon	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.0	L4IH	452	131	4150	20x6.50	20x6.50D
Gramm D	2 1/2	1995	Lyc	L	6	3 3/4x4 1/2	299.0	33.7	90@2200	G	Per	Jon	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	33.0	L4IHV	339	160	5200	20x7.50	20x7.50D
Gramm E	3	2595	Lyc	L	6	3 7/8x5	353.8	36.0	90@2200	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	35.0	L4IHV	659	160	5950	20x8.25	20x8.25D
Gramm E Y	3	3595	Con	H	6	4 1/8x4 3/4	380.8	40.8	90@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	30.0	L4IHA	—	190	7200	20x7.50	20x7.50D
Gramm G Y	4	4345	Con	H	6	4 3/8x4 3/4	428.4	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Wis	2 R	28.0	BW4IM	—	210	7700	20x8.25	20x8.25D
Gramm G W	4	5175	Con	H	6	4 3/8x4 3/4	428.0	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Wis	2 R	—	4IA	864	157	9500	20x9.00	20x9.00D
Gramm H Y	5	6545	Con	L	6	4 3/4x5 3/4	611.4	54.1	127@2300	G	Per	Ful	Blo	Ross	Zen	P	Aut	Ful	4	Wis	2 R	25.2	4IA	—	236	10100	36x8	36x8D
Indiana 60	*6000	995	Con	L	6	3 3/8x4	214.7	27.3	61@3000	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	3	Col	Sp	19.8	B4IM	297	132	3200	30x5	30x5
Indiana 64	6500	1195	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	3	Col	Sp	21.3	C4IM	244	137	3400	30x5	30x5
Indiana 74	7500	1290	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	25.6	C4IM	100	137	3450	32x6	32x6
Indiana 89	9000	1525	Con	L	6	3 3/8x4 5/8	248.2	27.3	65@2700	C	Long	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Col	Sp	20.9	C4IM	292	149	4050	32x6	32x6
Indiana 111 XW	12500	1850	Her	L	4	4 x5	251.3	25.6	46@2000	G	McC	Borg	Spic	Ross	Str	Vac	Aut	Br-L	4	Wis	2 R	35.2	K2IM	270	120	3740	32x6	32x6D
Indiana 120	12000	1990	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	31.3	L4IH	353	156	5200	32x6	32x6D
Indiana 140	14000	2495	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	35.3	54IHV	356	156	5500	32x6	32x6D
Indiana 141	17000	2935	Con	H	6	4 x4 1/8	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	46.2	L4IHV	380	170	6200	32x6	32x6D
Indiana 170	17000	3160	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	46.6	L4IHV	380	170	6800	32x6	32x6D
Indiana 175	17500	3660	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	G & O	—	Spic	Ross	Str	P	Aut	—	5	Wis	2 R	45.3	L4IHV	380	170	7200	34x7	34x7D
Indiana 195	19500	3820	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	49.5	L4IHV	471	170	7500	34x7	34x7D
Indiana 199	20000	4185	Con	H	6	4 1/8x4 3/4	380.9	40.8	89@2400	C	Long	Borg	Spic	Ross	Str	P	Aut	Br-L	7	Tim	Wo	78.6	T2IMV	500	168 1/2	7625	34x7	34x7D
Indiana 220	22000	4560	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2 R	50.7	L4IHV	546	170	8200	36x8	36x8D
Indiana 250	25000	5950	Con	H	6	4 3/8x4 3/4	427.5	45.9	100@2400	C	Long	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	63.7	LT4IHV	664	182	10000	40x8	40x8D
Indiana 290	30000	7250	Con	L	6	4 3/4x5 3/4	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	93.0	T4IA	676	182	10750	38x7P	40x14S
*Indiana 640	40000	9700	Con	L	6	4 3/4x5 3/4	611.4	54.1	116@1800	C	Long	Br-L	Spic	Ross	Str	P	L-N	Br-L	7	Tim	Wo	90.9	T4IA	864	212	14000	38x7P	36x10S
International A W 1	3/4	650	Wak	L	4	3 1/2x4 1/2	173.0	19.6	30@2700	G	Mod	Rock	Mec	Ross	Zen	Vac	DR	Mec	3	Own	Sp	17.4	B4IM	212	136	2620	20x5.25	20x5.25
International Sp. Del.	3/4	675	Wak	L	4	3 1/2x4 1/2	173.0	19.6	30@2700	G	Long	Rock	Mec	Ross	Zen	Vac	DR	Mec	3	Eat	Sp	60.3	BE4IM	256	124	2200	30x5.25	30x5.25
International 6 Sp. Spec.	1	675	Wak	L	4	3 1/2x4 1/2	173.0	19.6	30@2700	G	Long	Rock	Mec	Ross	Zen	Vac	DR	Mec	3	Eat	Sp	52.6	BE4IM	292	124	2430	30x5	30x5
International S 24	1 1/4	1160	Lyc	L	4	3 3/4x5	220.9	22.5	43@2350	G	Long	Own	Mec	Col	Zen	Vac	DR	Own	3	Eat	Sp	21.3	B4IM	346	130	3200	30x5	30x5
International S 26	1 1/4	1310	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2800	G	Long	Own	Mec	Col	Zen	Vac	DR	Own	3	Eat	Sp	21.3	B4IM	346	130	3250	30x5	30x5
International A W 2	1 1/2	675	Wak	L	4	3 1/2x4 1/2	173.0	19.6	30@2700	G	Long	Rock	Mec	Ross	Zen	Vac	DR	Mec	3	Own	Sp	60.3	BE4IM	492	136	2980	20x5.50	20x6.00
International S F 34	1 1/2	1450	Lyc	L	4	3 3/4x5	221.0	22.5	43@2350	G	Long	Own	Mec	Col	Zen	Vac	DR	Own	3	Eat	Sp	22.6	BE4IM	346	140	3520	30x5	32x6
International A L 3	1 1/2	1450	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2800	G	Mod	Own	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	42.9	B4IM	295	138	4300	20x6.00	20x6.00D
International S F 36	1 1/2	1600	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2800	G	Long	Own	Mec	Col	Zen	Vac	DR	Own	3	Eat	Sp	22.6	BE4IM	346	140	3570	30x5	32x6
International A 2	1 1/2	675	Wak	L	4	3 3/8x4 1/2	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	212	136	2800	5.50x20	6.00x20
International B 2	1 1/2	675	Wak	L	4	3 3/8x4 1/2	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	Mec	3	Own	Sp	47.3	BE4IM	212	136	2830	5.50x20	6.00x20
International S D 44	2	1590	Lyc	L	4	3 3/4x5	221.5	22.5	43@2350	G	Long	Own	Mec	Col	Zen	Vac	AB	Own	4	Eat	Sp	40.6	BE4IM	421	117	3700	30x5	32x6
International S D 46	2	1740	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2800	G	Long	Own	Mec	Col	Zen	Vac	AB	Own	4	Eat	Sp	40.6	BE4IM	421	117	3750	30x5	32x6
International S F 46	2	1950	Lyc	L	6	3 1/4x4 1/2	224.0	25.3	61@2800	G	Long	Own	Mec	Col	Zen	Vac	DR	Own	4	Eat	Sp	40.6	BE4IM	421	140	4000	32x6	32x6D
International A 4	2	1860	Own	H	6	3 5/8x4 1/2	279.0	31.5	65@2800	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	47.8	BE4IM	378	145	5070	32x6	32x6D
International H S 54	2 1/2	3850	Hall	H	4	4 1/4x5 1/2	312.0	28.9	54@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Eat	2 R	60.5	BE4IM	726	148	8000	36x5S	36x8S
International H S 54 C	2 1/2	3850	Hall	H	4	4 1/4x5 1/2	312.0	28.9	54@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	Cn	63.8	BO4IM	732	148	8665	36x5S	36x10S
International W 1	2 1/2	3850	Hall	H	4	4 1/4x5 1/2	312.0	28.9	54@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2 R	60.5	BE4IM	710	148	8300	36x5S	36x8S
International A 5	3	2550	Own	H	6	3 5/8x4 1/2	279.0	31.5	65@2800	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	52.6	BE4IM	430	156	5606	34x7	34x7D
International A 6	3	2675	Own	H	6	3 5/8x4 1/2	279.0	31.5	65@2800	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	62.5	BE4IM	430	156	5750	34x7	34x7D
International H S 74	3 1/2	4850	Hall	H	4	4 3/4x5 1/2	390.0	36.1	60@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Eat	2 R	70.5	BE4IM	850	160	10700	36x5S	40x12S
International H S 74 C	3 1/2	4850	Hall	H	4	4 3/4x5 1/2	390.0	36.1	60@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	Ch	79.1	BO4IM	736	160	11000	36x6S	40x12S
International W 3	3 1/2	4850	Hall	H	4	4 3/4x5 1/2	390.0	36.1	60@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2 R	70.5	—	—	160	10125	36x6S	40x12S
International H S 104 C	5	5500	Hall	H	4	4 3/4x5 1/2	390.0	36.1	60@1800	C	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	Ch	90.5	BO4IM	736	160	11095	36x6S	40x14S
La France Rep. A 1	6000	795	Lyc	L	6	3 x4 3/4	201.5	21.5	60@2500	G	G & O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	36.1	L4IH	—	132	3000	20x5.50	32x6
La France Rep. C 1	7500	1295	Lyc	L	6	3 1/4x4 1/2	224.0	25.4	61@2750	G	G & O	Eorg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	29.1	L4IH	—	144	3300	20x6.00	32x6
La France Rep. D 1	9000	1595	Lyc	L	6	3 1/4x4 1/2	224.0	25.4	61@2750	G	G & O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	29.1	L4IH	—	144	3725	30x5	30x5D
La France Rep. F-3	13000	2395	Lyc	L	6	3 3/4x4 1/2	299.0	33.7	80@2500	G	Per	Ful	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	40.1	L4IHV	—	174	5520	34x7	34x7
La France Rep. H 2	16000	2985	Lyc	L	6	3 7/8x5	354.0	36.0	85@2300	G	Per	Ful	Spic	Han	Zen	Vac	Aut	Ful	4	Wis	2 R	41.6	L4IHV	—	174	6370	34x7	34x7D
La France Rep. M 2	20000	4000	Wak	L	6	4 3/8x5 1/8	462.0	46.0	97@2000	G	Per	Ful	Spic	Hen	Zen	Vac	Aut	Ful	5	Wis	2 R	48.1	L4IHV	—	174	7500	36x8	36x8D
La France Rep. 35-2	24000	5600	Wak	L	6	4 1/2x5 3/4	549.0	48.6	98@1850	G	Own	Ful	Spic	Han	Zen	Vac	Aut	Ful	4	Wis	2 R	45.4	L4IHV	—	174	8250	38x9	38x9D
Maccar 36 A	1 1/2	1900	Bud	L	6	3 3/4x4 1/2	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	31.1	L4W	315	171	4850	32x6	32x6D
Maccar 40 A	2	2400	Bud	L	6	3 3/4x4 1/2	298.0	33.7	83@2800	G	Per	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Tim	Sp	40.6	L4W	365	171	5340	32x6	32x6D
Maccar 56	3	3350	Bud	L	6	3 3/4x5	311.0	33.7	72&2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	4	Wis	2 R	34.5	L4W	380	183	6200	34x7	34.7D
Maccar 60	3	3950	Bud	L	6	4 1/8x5 1/8	411.0	40.8	103@2100	G	Per	Br-L	Spic	Ross	Str	Vac	DR	Br-L	5	Tim	Wo	37.2	L4W	377.5	183	6600	20x9.00	20x9.00D
Maccar 66 A	4	5500	Her	L	6	4 3/8x4 3/4	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	86 7	4 A	617.5	206	8200	20x9.75	20x9.75D
Maccar 86 A	5	5950	Her	L	6	4 3/8x4 3/4	479.0	51.3	106@2100	G	Per	Br-L	Spic	Ross	Zen	Vac	DR	Br-L	7	Tim	Wo	85.0	4 A	623	206	9500	20x10.50	20x10.50D
Mack B L	1 1/2	2500	Own	L	6	3 1/4x5	248.9	25.3	63@2800	G	Own	Own	Spic	Gem	Str	Vac	NE	Own	4	Tim	Sp	Opt	L4IH	302	148	4450	20x6.00B	20x6.00DB
††Mack B G	2	3000	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Sp	Opt	O4IV	415	156	5200	32x6	32x6D
Mack A B	2 1/2-3	4350	Own	L	4	4 1/4x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146 1/2	7100	34x7	34x7D
††Mack A B	2 1/2-3	4000	Own	L	4	4 1/4x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146 1/2	6850	34x7	34x7D
Mack A B	2 1/2-3	4500	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146 1/2	7050	34x7	34x7D
††Mack A B	2 1/2-3	4150	Own	L	6	3 5/8x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146 1/2	6850	34x7	34x7D
††Mack B C	3-4	5250	Own	L	6	4 x5 1/2	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	610	154	8350	36x8	36x8D
††Mack B C	3 1/2-5	5500	Own	L	6	4 x5 1/2	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	610	154	9500	36x8	36x8D
††Mack B J	3 1/2-5	6150	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	567	168 1/2	10100	36x8	36x8D
††Mack A K	3 1/2-5	5150	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	O4IV	492	162	9800	36x5S	36x5DS
††Mack A K	3 1/2-5	5250	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	2 R	Opt	O4IV	492	162	9700	36x5S	36x5DS
††Mack A C	3 1/2-5	4950	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	9500	36x5S	40x5DS
††Mack A K	3 1/2-5	6450	Own	L	6	4 1/2x5 1/2	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	L-N	Own	4	Own	2 R	Opt	O4IV	492	174	10950	22x10.50B	22x10.50DS
††Mack A C	5 1/2-7	5500	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Han	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10100	36x6S	40x6DS
††Mack A C	5 1/2-7	6550	Own	L	6	4 1/2x5 1/2	525.5	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	Ch	Opt	O4IV	492	174	11050	24x10.50B	24x10.50DB
††Mack A C	7 1/2	6000	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	OJXM	194	156	10450	36x7S	40x7DS
††Mack A P	7 1/2	9500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O2IV	287	191	12200	36x7S	40x8DS
Mack A K 6—6 wheel	—	9500	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	Ch	Opt	ORIV	574	152	16300	9.75x22B	5.75x22DB
††Mack A C 6 wheel	10	7500	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	RB	Own	4	Own	Ch	Opt	ORIV	574	125	13800	36x6S	40x12S
Mack A C 6—6 wheel	—	8700	Own	L	6	4 1/2x5 1/2	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	L-N	Own	4	Own	Ch	Opt	ORIV	574	145	14950	9.75x22B	9.75x22DB
††Mack A P 6 wheel	10	12000	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	ORIV	574	145	15250	36x7S	40x12S
Paige	1/2	*895	Own	L	6	3 1/4x4 1/2	224.0	23.4	70@3200	C	Long	Long	Un	Ross	DL	I	DR	—	3	—	Sp	14.2	4IH	187	115	2350	18x5.50B	18x5.50B
Pierce-Arrow P T	2	2950	Own	L	6	3 3/4x4 1/2	298.0	33.5	70@2600	G	Long	Long	Cle	Han	Zen	P	DR	Cla	4	Tim	Sp	—	B41MV	388	160	5600	20x7.50B	20x7.50B
Pierce-Arrow P W	3	4150	Own	L	6	4 1/8x4 1/2	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	*Wo	—	W4IA	488	150	6060	20x9.00B	20x9.00B
Pierce-Arrow P X	4	5375	Own	L	6	4 5/8x4 3/4	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	—	W4IA	610	160	9300	20x10.50B	20x10.50B
Pierce-Arrow P Y	5	5950	Own	L	6	4 5/8x4 3/4	479.0	51.3	103@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	*Wo	—	W4IA	701	160	10675	24x10.50B	24x10.50B
Pierce-Arrow P Z	8	6950	Own	L	6	4 3/4x5 3/4	611.0	54.1	130@2000	G	Long	Long	Cle	Han	Zen	P	DR	Own	4	Own	*Wo	—	W4IA	702	166	12800	36x7B	40x16B
Relay Series 15 AA	3/4	1370	Con	L	6	3 3/8x4	214.7	27.3	52@2200	C	Long	Borg	Bio	Han	Str	Vac	Aut	W-G	4	Own	2R	38.4	L4IH	297	131	3750	30x5P	30x5P
Relay Series 15 AB	1	1400	Con	L	6	3 3/8x4	214.7	27.3	52@2200	C	Long	Borg	Bio	Han	Str	Vac	Aut	W-G	4	Own	2R	38.4	L4IH	297	131	3800	30x5P	30x5P
Relay Series S 11	1	1700	Bud	L	6	3 3/8x4 1/2	241.6	27.3	53@2200	G	Long	Br-L	Bio	Han	Zen	Vac	Aut	Br-L	4	Own	2R	25.5	L4IH	297	142	4050	30x5P	30x5P
Relay Series S 11	1 1/2	1900	Bud	L	6	3 3/8x4 1/2	241.6	27.3	53@2200	G	Long	Br-L	Bio	Han	Zen	Vac	Aut	Br-L	4	Own	2R	30.0	L4IH	297	162	4500	30x5P	30x5DP
Relay Series 40	1 1/2	2990	Bud	L	6	3 5/8x5	309.6	31.5	64@2100	G	Long	Br-L	Bio	Han	Zen	Vac	Aut	Br-L	4	Own	2R

Major Specifications and Mechanical Details of 1931 Commercial Cars

(CONTINUED FROM PAGE NINE)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brakes	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
Selden 67 C	5	4975	Con	H	6	4⅜x4¾	427.0	45.9	100@2400	C	Own	Br-L	Spic	Ross	Str	Vac	Aut	Br-L	7	Wis	2R	——	L4IHVA	—	171	8700	36x8	36x8C
Selden 77	7	7365	Con	L	6	4¾x5¾	611.0	54.1	127@2300	G	Own	Br-L	Spic	Ross	Str	Vac	Aut	Br-L	7	Wis	2R	——	BW41M	—	178	11600	40x8	42x9D
Service Series S 11	1	1600	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Col	Sp	28.5	——	—	142	3900	30x5P	30x5P
Service Series S 11	1½	1900	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4300	30x5P	30x5DP
Service Series 40	1½	2990	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4700	34x5P	34x5DP
Service Series S 11	2	2030	Bud	L	6	3⅜x4½	241.6	27.3	53@2200	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Sp	29.2	L4IH	297	162	4500	32x6	32x6D
Service Series 40	2	3240	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	4900	36x6	36x6D
Service Series 40	2½	3240	Bud	L	6	3⅝x5	309.6	31.5	64@2100	G	Long	Br-L	Blo	Han	Zen	Vac	Aut	Br-L	4	Tim	Wo	34.8	L4IH	394	168	5100	36x6P	36x6D
Service Series 60	2½	4580	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	83.0	L4IH	584	175	7000	36x6	38x7D
Service Series 60	3	4680	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Ful	Blo	Han	Zen	Vac	Aut	Ful	5	Tim	Wo	83.0	——	—	175	7100	36x6	38x7D
Service Series 80	3½	5250	Bud	L	6	4⅛x5⅛	411.0	40.8	83@2100	G	Long	Borg	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8200	36x6S	36x14S
Service Series 80	4	5330	Bud	L	6	4⅛x5⅛	411.0	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	98.2	——	—	175	8400	36x6S	40x14S
Service Series 100	5	5830	Bud	L	6	4⅛x5⅛	410.9	40.8	83@2100	G	Long	Own	Blo	Ross	Zen	Vac	Aut	Br-L	7	Tim	Wo	95.0	——	—	175	9600	36x6S	40x14S
Sewart 30	1	695	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	3158	20x6.50	20x6.50
Sewart 30X	1	795	Lyc	L	6	3 x4½	185.0	18.3	55@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	3199	20x6.50	20x6.50
Sewart 40	1½	895	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	..	130	3531	20x6.50	20x6.50D
Sewart 40 X	1½	995	Lyc	L	6	3 x4½	201.5	23.8	60@3800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Sal	Sp	35.1	B4IM	..	130	3574	20x6.50	20x6.50D
Sewart 34 X	1½	1195	Lyc	L	6	3⅛x4½	224.0	25.3	61@2600	G	Own	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	..	145	3891	20x6.50	20x6.50D
Sewart 28 X	2	1495	Lyc	L	6	3⅛x4½	224.0	25.3	61@2600	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	..	136	4239	20x6.50	20x6.50D
Sewart 29 X S	2	1695	Lyc	L	6	3⅜x4½	278.0	25.3	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	..	145	4194	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc	L	6	3⅞x5	310.0	31.5	85@2750	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	4	Tim	Wo	48.1	B4IM	..	165	6245	32x6	32x6D
Stewart 32 X	2½	1990	Lyc	L	6	3⅜x4½	278.0	31.5	80@2500	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	..	165	6552	32x6	32x6D
Stewart 35 X	3	2590	Lyc	L	6	3¾x4½	299.0	33.8	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	..	165	6724	20x8.25B	20x8.25D
Stewart 36 X	3	2990	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Fed	—	Spic	Ross	Str	P	DR	Br-L	4	Tim	Wo	105.1	——	..	165	6864	20x8.25	20x8.25D
Stewart 38-8	2½	3990	Lyc	L	8	3¾x4¾	462.0	44.4	130@2800	G	Fed	—	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	——	..	170	7964	20x9.00	20x9.00D
Stewart 38-6	3½	3990	Wak	L	6	4⅜x5⅛	420.0	45.9	100@2000	G	Fed	—	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	——	..	170	7964	20x9.00	20x9.00D
Stewart 19 X	3½	3690	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	12	Tim	Wo	105.1	B4IM	..	165	7174	34x7	34 7D
Stewart 31 X	5	4990	Wak	L	6	4⅜x5⅛	462.0	45.9	100@2000	G	Mod	Ful	Spic	Ross	Str	P	DR	Ful	8	Tim	Wo	105.1	B4IMV	—	165	9885	36x6S	36x6SD
Stewart 27 X	7	5700	Wak	L	6	4⅜x5⅛	462.0	45.9	100@2000	G	Own	Ful	Spic	Ross	Str	P	DR	Ful	8	Tim	Wo	105.1	B4IMV	—	165	10512	36x7	40x7D
Studebaker S-1	½	595	Own	L	6	3⅜x4⅛	221.0	27.3	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	3	Own	Sp	16.4	B4IM	148	114	2897	19x5.25	19x5.25
Studebaker S-20	1½	695	Own	L	6	3¼x4⅛	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Tim	Sp	36.2	B4IM	224	130	3044	20x6.00	32x6
Studebaker S-30	1½	775	Own	L	6	3¼x4⅛	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Tim	Sp	36.2	B4IM	224	160	3199	20x6.00	32x6
Studebaker S-40	2	945	Own	L	6	3¼x4⅛	205.0	25.4	70@3200	C	McC	Long	Spic	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	136	3825	20x6.50	20x6.50D
Studebaker S-50	2	895	Own	L	6	3¼x4⅛	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	148	3855	20x6.50	20x6.50D
Studebaker S-60	2	945	Own	L	6	3¼x4⅛	205.0	25.4	70@3200	C	McC	Long	Cle	Ross	Str	P	DR	W-G	4	Tim	Sp	37.4	B4IM	276	146	3265	20x6.50	20x6.50D
Studebaker GN-N	——	1245	Own	L	6	3⅜x4⅛	221.0	27.3	70@3200	C	—	Long	—	Ross	Str	P	DR	Cla	4	Cla	Sp	33.5	B4IM	348	160	3909	30x5	32x6
Studebaker 88	——	3295	Own	L	8	3½x4⅜	327.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	444	184	5200	20x7.50	20x7.50D
Studebaker 99	——	3795	Own	L	8	3½x4⅜	337.0	39.2	115@3200	G	Long	Long	Spic	Ross	Str	P	DR	Ful	4	Eat	Sp	24.6	B4IMV	505	184	5680	20x7.50	20x7.50D
White 15B	*7,500	1545	Own	L	4	3¾x5⅛	226.4	22.5	31@1600	G	Own	Own	Spic	Own	Zen	Vac	L-N	Own	4	Own	Sp	18.6	O2XM	228	133½	2402	30x5	30x5
White 160	*8,000	1700	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4025	30x5	30x5
White 60	*8,000	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.8	L4IH	276	138	3739	30x5	30x5D
White 161	*9,000	1850	Own	L	4	4 x5¾	289.0	25.6	45@1300	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4290	34x7	34x7
White 162	*10,000	1900	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4260	30x5	30x5D
White 216	*10,000	2300	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4875	30x5	30x5D
White 61	*10,500	2450	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4789	30x5	30x5D
White 611	*11,500	2550	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	—	Own	—	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4980	20x7.00B	20x7.00DB
White 211	*11,500	2425	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5110	32x6	32x6D
White 212	*13,000	2700	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	—	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5230	34x7	34x7D
White 56	*13,000	3125	Own	L	4	4 x5¾	289.0	25.6	45@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	26.2	O2IM	268	165	5278	36x4	36x7
White 612	*13,000	2800	Own	L	6	3¾x4½	299.0	33.7	61@2100	C	—	Own	—	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5100	20x7.50B	20x7.50DB
White 620	*15,000	4350	Own	H	6	4 x5¼	396.0	38.4	72@1800	G	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.8	OL4IHV	—	157	7300	20x8.25B	20x8.25DB
White 51A	*17,000	3750	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	35.6	O2IM	335	170	6438	36x5	36x8
White 51AT	*17,000	3875	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	46.6	O2IM	335	134	6227	36x5	36x8
White 621	*18,000	4650	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	OL4IHV	—	157	7700	20x9.00B	20x9.00DB
White 640	*20,000	6100	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	Sp	33.9	O4IA	—	180	9200	20x9.00B	20x9.00DB
White 630	*20,000	5000	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	O4IHV	554	168	8500	20x9.00B	20x9.00DB
White 55	*21,500	4650	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	66.1	OPXM	224	174	8737	36x5	40x5D
White 58	*22,000	4400	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	49.7	OPXM	224	180	7797	36x5	36x5D
White 641	*24,000	6450	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	46.9	O4IA	—	180	9700	20.9.75B	20x9.75DB
*White 630 SW200	*24,000	6280	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	—	Own	Spic	Ross	Zen	P	DR	Own	4	Tim	Wo	44.2	OT1HV	—	193	10000	20x8.25B	20x8.25DB
White 631	*24,000	5750	Own	H	6	4 x5¼	396.0	38.4	72@1800	C	Own	Own	Spic	Own	Zen	P	DR	Own	4	Own	2R	56.9	O4IHV	—	168	9000	20x9.25B	20x9.25DB
White 52	*28,000	5100	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	58.4	OPXM	224	174	9409	36x6	40x12
White 52T	*28,000	4700	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	76.5	OPXM	224	129½	8461	36x5	40x5D
White 643	*32,000	6950	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10900	24x10.50B	24x10.50DB
*White 642 SW310	*34,000	8045	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	88.4	OT1HV	—	198	12670	20x9.00B	20.9.00DB
White 642	*34,000	6750	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O4IA	—	180	10609	24x9.75B	24x9.75DB
*White 643 SW410	*40,000	8570	Own	H	6	4⅜x5¾	519.0	45.9	96@1800	C	—	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	69.9	OT1HV	—	198	14400	40x8	40x8D
**White 60K	——	2200	Own	L	6	3½x4½	260.0	29.4	54@2100	C	—	Own	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.6	L4IH	276	112	4200	20x7.00B	20x7.00B
White 601	——	1900	Own	L	6	3½x4½	260.0	29.4	54@2100	C	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	3825	20x7.00B	20x7.00B
White 602	——	2050	Own	L	6	3½x4½	260.0	29.4	50@1800	C	—	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4125	20x7.50B	20x7.50B
Willys 6-C-113	½	395	Own	L	6	3⅛x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	Own	3	Own	Sp	12.4	B4IM	147	113	1872	19x5.00	19x5.00
Willys 6-C-131	1½	595	Own	L	6	3⅛x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	40.8	B4IM	232	131	2625	20x5.50	32x6
Willys 6-C-157	1½	630	Own	L	6	3⅛x3⅞	193.0	25.3	65@3400	C	Fed	Borg	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp	40.8	B4IM	232	157	3900	20x5.50	32x6

GENERAL NOTATIONS

****REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

CHASSIS WEIGHT—Unless otherwise specified includes gas, water, oil, etc.

ENGINE—Bud, Buda: Con, Continental; Her, Hercules: Lyc, Lycoming: Pont, Pontiac: Wak, Waukesha: Wis, Wisconsin: Hall, American Car & Foundry.

VALVE ARRANGEMENT—L, "L" head; H, in head: O, overhead; T, T head.

TYPE OF CAMSHAFT DRIVE—G, gear; C, chain.

RADIATOR MAKE—G & O, G & O Mfg. Co.: Per, Perfex Corp.: Long, Long Mfg. Co.: Har, Harrison Radiator Corp.: Fed, Fedders Mfg. Co.: McC, McCord Radiator & Mfg. Co.: Mod, Modine Mfg. Co.: Hex, Hexcel Radiator Co.

CLUTCH MAKE—Jon, Jones Clutch & Gear Co.: Ful, Fuller & Sons Mfg. Co.: Borg, Borg & Beck Co.: Br-L, Brown Lipe Gear Co.: Rock, Rockford Drill & Machine Co.: Cov, Covert Gear Co.: Long, Long Mfg. Co.: Detr, Detroit Gear & Machine Co.: Mer, Merchant & Evans: Hel, Merchants & Evans.

UNIVERSALS MAKE—Spic, Spicer Mfg. Co.: Blo, Blood Bros. Machine Co.: Sup, Superior Universal Products: Un, Universal Products Co.: Cle, Cleveland Steel Products Corp.: Pet, Peters: Opt, optional: Mec, Mechanics Machine Co.

STEERING GEAR MAKE—Ross, Ross Gear & Tool Co.: Han, Hannum Mfg. Co.: Sag, Saginaw Steering Gear Co.: Gem, Gemmer Mfg. Co.: Col, Columbus Gear & Pump Co.: W-G, Warner Gear Corp.

CARBURETOR—Car, Carter: Mar, Marvel: Sch, Wheeler-Schebler: Str, Stromberg: DL, Detroit Lubricator: Til, Tillotson: Zen, Zenith-Detroit.

FUEL FEED—Gra, gravity; Vac, vacuum tank: P, fuel pump.

ELECTRICAL SYSTEM—AB, American-Bosch: Aut, Electric Auto-Lite: Eis, Eisemann: L-N, Leece-Neville: NE, North East: RB, Robert Bosch: DR, Delco-Remy.

TRANSMISSION—Br-L, Brown-Lipe: Cov, Covert: Ful, Fuller: Mec, Mechanics Machine: Mun, Muncie: W-G, Warner Gear: Cot, Cotta Gear Co.: Cla, Clark Equipment Co.

REAR AXLE, Cla, Clark Equipment: Col, Columbia: Eat, Eaton: Pont, Pontiac: Sal, Salisbury: Tim, Timken: Wis, Wisconsin.

FINAL DRIVE—IG, internal gear; St, straight bevel; Sp, spiral bevel; Wo, worm; 2R, double reduction; Ch, chain; S-T, semi-transverse.

TIRES—B, balloon; D, dual; S, solid; P, pneumatic.

TYPE OF SERVICE BRAKES—

B4IM, Bendix, 4 wheel, internal mechanical: B6IA, Bendix, 6 wheel, internal air; B4IMV, Bendix, 4 wheel, internal mechanical, vacuum: BrIA, Bendix, operating on 4 rear wheels, internal air; BW4IM, Bendix front, Wisconsin rear, 4 wheel internal, mechanical; BE4IM, Bendix front, Eaton rear, 4 wheel, internal mechanical: BO4IM, Bendix front, own rear, 4 wheel internal mechanical; B4IH, Bendix, 4 wheel, internal hydraulic; B4, Bendix, 4 wheel.

C4IM, Columbia, 4 wheel, internal, mechanical; K2IM, Clark, 2 wheel, internal, mechanical.

L4IHVA, Lockheed, 4 wheel, internal, hydraulic, vacuum, air: LO4ID, Lockheed, own, 4 wheel, internal, drive shaft; LT4DV, Lockheed Timken, 4 wheel, drive shaft, vacuum; L4IH, Lockheed, 4 wheel, internal, hydraulic; L4IHV, Lockheed, 4 wheel, internal, hydraulic, vacuum: LT4IVA, Lockheed, Timken, 4 wheel, internal, vacuum, air: L6IHV, Lockheed, 6 wheel, internal, hydraulic, vacuum: L6IH, Lockheed, 6 wheel, internal, hydraulic.

O2IM, Own, 2 wheel, internal, mechanical; O2IV, Own, 2 wheel, internal, vacuum: O4IA, Own, 4 wheel, internal, air; O4IM, Own, 4 wheel, internal, mechanical; O4IV, Own, 4 wheel, internal, vacuum: O4M, Own, 4 wheel, mechanical: O2XM, Own, 2 wheel, external, mechanical: O4XM, Own, 4 wheel, external, mechanical: OJXM, Own, jack shaft, external, mechanical; OL4IH, Own, Lockheed, 4 wheel, internal, hydraulic; OPX, Own, propeller shaft, external; OPXM, Own, propeller shaft, external, mechanical; OPM, Own, propeller shaft, mechanical; ORIV, Own, rear wheels, internal, vacuum.

S4IM, Steeldraulic, 4 wheel, internal, mechanical.

T4rIA, Timken, operating on 4 rear wheels, internal, air: T4IA, Timken, 4 wheel, internal, air; T6IA, Timken, 6 wheel, internal, air: T2IMV, Timken, 2 wheel, internal, mechanical, vacuum.

W4I, Westinghouse, 4 wheel, internal; W4IA, Westinghouse, 4 wheel, internal, air. 4IA, 4 wheel, internal, air; 4IH, 4 wheel, internal, hydraulic.

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear; weight, 6,400. Price, $3,900.

Chieftain model also available as dump truck, 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUTOCAR

*Engines in these models are located under the driver's seat.

BROCKWAY

*Six-wheelers.

CHEVROLET

Utility model available on 131-inch wheel base with chassis weight of 2,760 pounds and equipped with dual rear wheels.

DAY ELDER

*Six-wheeler.

Additional standard wheel bases are available on different models as follows:

85.....146, 168 — 240.....204
110.....168, 186 — 285.....204
130.....165, 180, 204 — 345.....204
160.....165, 180, 204 — 402.....204

DODGE

*Models F40, F41, F61 and F62 can be had with double drop frame.

DIAMOND T

*Six-wheelers.

Additional standard wheel bases available as follows:

551.....158 — 750.....167, 192
504.....166½ — 801.....180½, 199¼
506.....174 — 1200.....174½, 180
603.....167, 179 — 1600.....174½, 188
606.....177½ — 1601.....184

F. W. D.

*Indicates six-wheel model.

The BTL and BT models are special line construction trucks in which complete provision for mounting AT and T earth boring machine, winch, body and other line construction accessories is included in the standard chassis.

Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

FEDERAL

*Six-wheelers.

†Solid tires standard, no spare rim or tire.

GRAMM

Series	Straight Rating	Wheel Base	Pay Load Range
AX 6	8,000	157	1 to 1½ tons
AX 6	8,000	157	1 to 1½ tons
BX 4	10,000	157	1¼ to 2 tons
BX 6	10,000	157	1½ to 2 tons
CX 4	12,000	157–180	2 to 3 tons
CX 6	12,000	157–180	2 to 3 tons
B	12,000	157–174	1¾ to 2½ tons
C	14,000	145–196	2 to 3 tons
D	17,000	145–196	2½ to 4 tons
E	20,000	145–196	3 to 4½ tons
EY			3 to 4 tons
GY			4 to 5 tons
GW	28,000	157–340	5 to 7½ tons
HY			5 to 6½ tons

†Both the four and six cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.

GENERAL MOTORS TRUCK

*Capacity indicated is the Straight Rating (combined weight of chassis, body, equipment and pay load) for which each chassis is designed and guaranteed to satisfactorily operate under average conditions. The size of the tires used does not affect this Straight Rating, but to secure maximum tire mileage it is suggested that the total gross weight be limited to a "recommended gross weight" for each tire equipment based on tire capacity. Prices cover base chassis and vary with wheel base and tire combinations. The number of wheel base lengths, tire types, range of "recommended gross weights" and resulting pay load range (assuming nominal body allowance) for each model follows:

Note: Models T-15 to T-60, inclusive, are available for export only as coach chassis.

Model	Wheel Bases	Tire Types	Range of "Rec. Gross Weights"	Pay Load Range
T-11	1	1	3800	½
T-15	3	10	4500– 6500	½–1½
T-17	2	8	5500– 6500	1-1½
T-19	3	22	6500– 8500	1½–2
T-25	3	17	6800– 9000	1½–2
T-26	4	..	8500–11000	2–3
T-30	3	15	10000–12500	2–3
T-31	4	..	11000–14000	2½–4
T-42	4	12	12000–15000	2½–4
T-44	4	12	12000–16000	3–4½
T-51	4	..	16500–19000	4-5½
T-55	4	..	16500–19000	4–5½
T-60	4	18	18500–22000	5–6½
T-91	4	..	19500–22000	5–6½
T-82	4	13	19000–24000	5–7
T-85	3	..	22000–26000	5–7
T-90	3	7	22000–28000	5–7½
T-95	3	..	28000–34000	7–9
T-96	3	..	28000–34000	7–9

†Models T-90, T-95 and T-96 are six-wheelers, the latter having one driven and one trailing axle. Optional rear axle gear ratios available for all models. Double reduction axles available for Models T-60, T-61 and T-82.

INDIANA

*Six-wheelers.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs 4 rear wheels driven by chains, foot brake on 4 rear wheels.

††Made also in tractor models.

PAIGE

*Price includes panel or screen body. Chassis weight given does not include gas, water, etc.

PIERCE-ARROW

*Optional final drive on Models PW, PX, PY and PZ.

REO

Model 15 Junior can be had with 4-speed transmission at additional cost. Models 15 Junior, DF 129, DF, FA, FE and FF are available with dual wheels at additional cost.

SELDEN

Additional standard wheel bases are available on different models as follows:

Model 37C..... 162 and 161
39C..... 177 and 190½
47CB, 47CD.. 151, 164, 184 and 184
67C.....151, 164, 184 and 198

STEWART

Models 30 and 30X can also be supplied in 110, 130 and 140-inch wheel base.

Models 40 and 40X can also be supplied in 110, 140 and 160-inch wheel base.

*Models 34X can be supplied in 135, 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 130, 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 135, 160 and 176-inch wheel base.

*Models 18X, 32X and 36X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148, 172, 190, 220 and 235-inch wheel base.

As optional equipment Models 18X, 19X, 36X, 31X and 27X can be supplied with Timken dual reduction rear axle.

Models 38-8 and 38-6 can be supplied in 196, 226 and 241-inch wheel base and worm axle.

STUDEBAKER

*Capacity Model GN-N is 4,000 pounds for body, cab, driver and pay load.

Maximum gross load, chassis, body and pay load for Models 77 and 88 is 12,500 pounds and for Model 99 is 14,000 pounds.

‡Hand brake same as foot brake standard. Hand brake on drive shaft, special equipment.

WHITE

*Six-wheelers.

**Price on Model 60K includes body.

SLOAN SEES OUTLOOK BETTER FOR 2D QUARTER

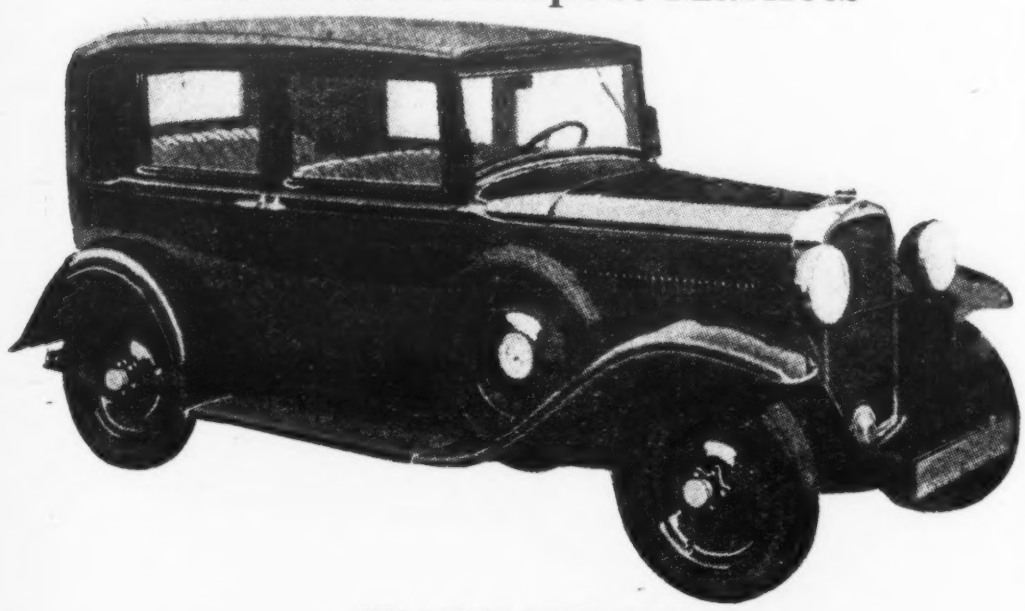
(Continued from Page 1)

pared with a year ago, reflects the business trend existing during the period under review. Comparison of the corporation's earning position with respect to reduction in volume demonstrates that reduction in operating expenses bears a favorable relationship to reduction in volume. It is gratifying to be able to state that in all probability the relationship between earnings of the second quarter wtih those of a year ago will show a much more favorable comparison than that of the first quarter.

"The corporation has enjoyed, during the period,

Production--Engineering--Factory

The Opel, World's Smallest 6-Cylinder Line, A German Product of General Motors, Produced for Export Markets



OPEL 6-cylinder 4-passenger sedan

A new General Motors car designed to meet motoring requirements in overseas markets is the 1.8 litre (109 cu. in.) six-cylinder Opel, manufactured at the Adam Opel A. G. works, Russelsheim, Germany. It will be merchandised through the General Motors Export Company and will not be sold in the United States or Canada. In its design considerations of size, type, operating and economy and price it is said to afford a combination for export needs not offered by any American car. Five body models are available for the 100-inch wheelbase chassis delivery van at $700; sedan, $785; cabriolet, $755; "sun" coupe, $830; "sun" sedan, $820. The latter models have a sliding roof feature. The chassis price is $545. Prices are approximately based on par value of the reichmark in Germany. Prices include extra tire and wheel.

The new Opel is said to be the world's smallest six-cylinder car, but it is not classified as a "baby" car. Its design incorporates big-car appearance, springing, power, speed and riding comfort. It is conventional in all respects except in the adoption of a forty-eight-inch tread, and the seating capacity of four passengers instead of the customary five-passenger standard. However, it is claimed that the leg-room and the head room provided is as ample as that found in American five-passenger cars.

The car is of original design throughout and is placed in a class between the so-called "baby" car and the Chevrolet.

The six-cylinder "L" head type engine is rubber mounted at four points, has a bore of 2.599 inches and a stroke of 3.544 inches, giving a displacement of 109 cubic inches. The pistons used are light weight cast iron, with three piston rings above the piston boss. The Silchrome intake and exhaust valves have the same diameter, 31/32 inch. Full pressure lubrication is provided. The cooling system is provided with a water pump. Bosch battery type starting and ignition is used. The carbureter is a Solex.

The clutch is of the single plated dry clutch type and is used in conjunction with a conventional three-speed transmission with a reduction of 3 to 1 in low; 1.6 to 1 in second, and 3.857 to 1 in reverse. A semi-floating rear axle with spiral bevel gears has a ratio of 4.77 to 1. The drive is transmitted through a propeller shaft with two inclosed mechanical joints.

The front axle is of "I" beam construction, with ball bearings in the wheels and ball thrust bearings in the steering spindle.

The steering gear is of the semi-reversible worm and sector type mounted on roller bearings. The steering wheel is 15¾ inches in diameter.

The frame has one-piece steel channel side-rails four inches deep, 0.128 inch thick and 1½-inch flanges.

Chrome - vanadium semi-elliptic springs are used front and rear. Front springs of six leaves are 33 inches long; rear springs of eight leaves are 50 inches long. Both springs are of the same width, 1¾ inches.

Four-wheel internal expanding brakes 10 inches diameter are used. The external contracting hand brake is mounted on the transmission.

High pressure chassis lubrication is provided.

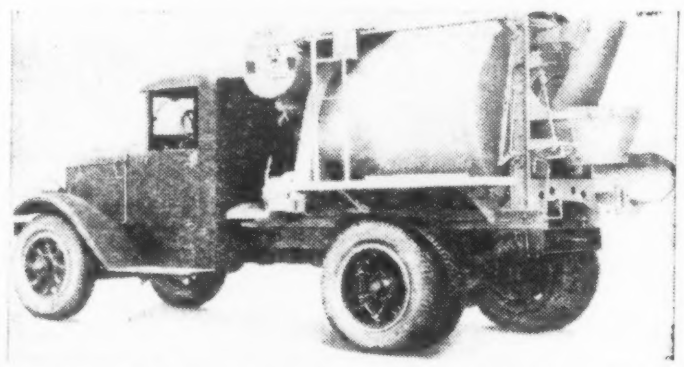
Steel disk drop center type 18 by 4 wheels, interchangeable front and rear mount balloon cord, straight side, 18 by 4½-inch tires.

The battery used is a 6 volt 13 plate 85 hour capacity.

Equipment includes headlamps with non-glare lenses, tail and stop lamp, indirect lighting of instrument panel, light switch, ignition switch with lock, battery, generator, starter, automatic distributor, horn button, winkers, trunk platform, tools, jack, tire pump and chassis lubrication gun.

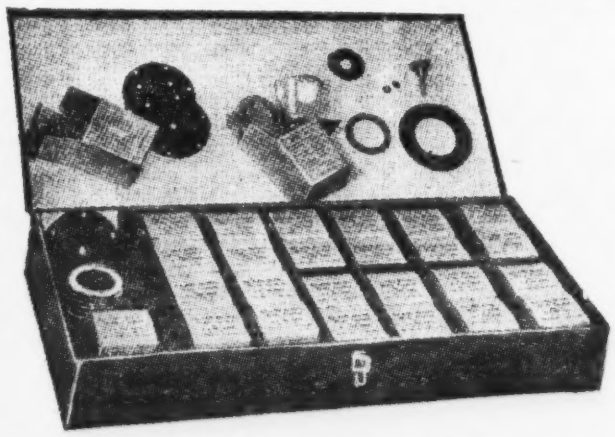
The instrument panel carries an oil gauge, speedometer, ignition switch, choke, gas and spark controls, clock, gasolene gauge, control for automatic windshield cleaner.

Improvements Made in Rex Concrete Mixer



THE NEW REX MOTO-MIXERS for concrete mixing made by the Chain Belt Company, Milwaukee, Wis., feature a new water control, new spout, controlled discharge and the ability to discharge, regardless of the angle of the truck delivering the mixed batch. The new mixer, with separate mounting, is lighter and lower than previous models.

Hygrade Offers Fuel Pump And Filter Replacements



HYGRADE double-duty gas kit No. AC150

Replacement parts for the A C fuel pump or gasoline strainer are now available through Hygrade Products Company, New York City. The Double Duty Gas Kit illustrated contains an assortment of 24 bowls, 50 gaskets, 25 diaphragms, 100 springs, 100 valves, 10 screens, 1 diaphragm ring and 1 diaphragm gauge. The metal cabinet provided is 10 x 21 in. Price complete, $22.50.

The company also offers two Sales-O-Mats, the S. O. M. 1,000 containing an assortment of 26 bowls and gaskets for a variety of fuel filters and pumps in a metal cabinet 20½ x 9 x 3 in. at $9.25 and S. O. M. 1,500 containing a variety of 128 bowls and 140 gaskets. The latter with metal cabinet 36 x 12 x 6 in. with sliding metal drawer in base is priced at $50.25.

S. A. E. BEACH PARTY TO BE HELD AT SANDY HOOK

A beach party at Fort Hancock for members of the Society of Automotive Engineers, their families and friends. A full day of sightseeing, swimming, fishing, a shore dinner, inspection of fortifications, motor repair shops, railroad, artillery park and other interesting features have been ararnged. Col. J. C. Johnson is the host for the day.

The trip over will be made on the Sandy Hook steamer leaving Pier 81, foot of West 42d Street, at 1.10 p. m., and Pier 10, foot of Cedar Street, at 1.30 p. m. ,daylight saving time. The return trip will be made by special train of the Central Railroad of New Jersey, leaving Sandy Hook at 8 p. m.

HOSPITALITY
AT ITS BEST...

Popular for its large, airy and marvelously comfortable rooms . . . its tempting, delicious foods . . . its efficient and unobtrusive service, Hotel Fort Shelby is best remembered by men and women who appreciate its generous hospitality. ¶ From the moment one enters its lobby . . . the soft colors and intimate luxury of its decorations create an immediate feeling of restful ease and comfort. ¶ Hotel Fort Shelby's location in the heart of Detroit's shopping, theatre, financial, insurance and wholesale districts is a happy one; no other hotel is so near the principal railway terminals, airports and steamship piers. Fort Shelby's 900 units are paneled and servidor equipped . . . all have private bath. Rooms as low as $3.00 per day . . . suites $10.00 and upwards.

Motorists are relieved of their automobiles at the door without service charge. Write for free road map, and your copy of "Aglow with Friendliness," our unique and fascinating magazine.

HOTEL Fort Shelby
"AGLOW WITH FRIENDLINESS"
E. J. BRADWELL, Manager
DETROIT

REO OFFERS TWO NEW SPEED WAGONS AT LOWER PRICES

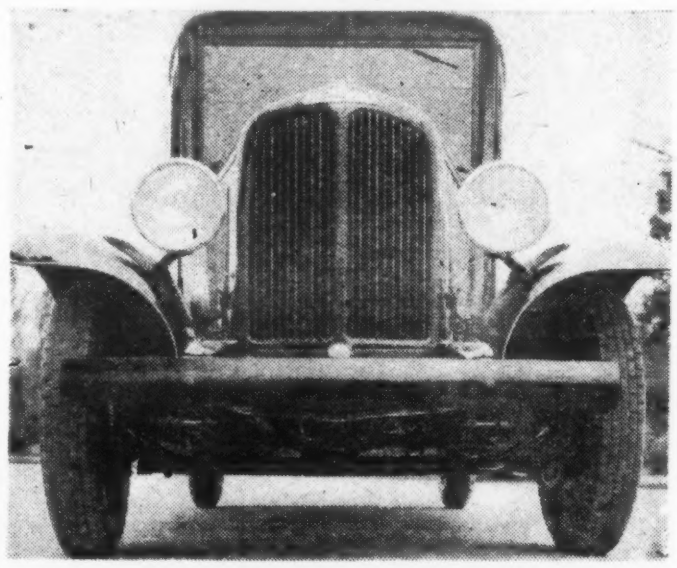
(Continued from Page 1)

The clutch is a heavy duty single plate dry-disc type, which transmits the power to four-speed transmission, designed for truck service. A tubular propeller shaft is used in conjunction with metal universal joints. The long wheelbase model has a two-piece propeller shaft with three metal universals.

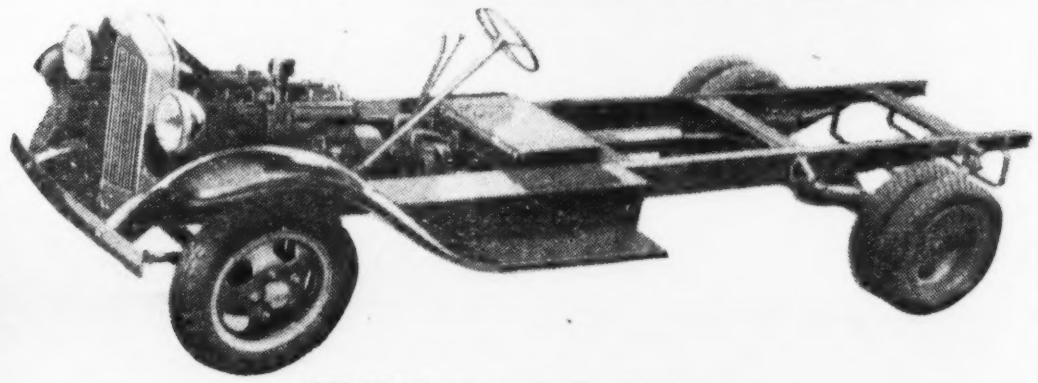
A full-floating rear axle with a spiral bevel ring gear and pinion straddled mounted on ball bearings is used in both models. Tapered roller bearings support the differential. The final reduction for the four-cylinder model is 36.9, while that of the six is 33.6.

The frame length behind the cab is 102 1/16 in. in the standard 136-in. w. b. models, and the distance from the back of the cab to the centerline of the rear axle is 60 1/16 in. Corresponding dimensions for the 160 w. b. models are 126 1/16 in. and 84 1/16 in., respectively. The frames are 34 in. wide, of channel section, with a maximum depth of 7 in. The flange width is 2 3/4 in. Frame stock is 5 32 in. thick for the standard wheelbase chassis, and 1/4 in. for the 160-in. length. The frames are reinforced by five cross-members. The front cross-member is of spring steel attached to the frame horns.

Front springs are 40 x 2 in., and those on the rear are 50 x 2 1/2 in.



HEAD-ON VIEW of New Reo Speedwagon



NEW REO Speedwagon 1½-Ton Chassis

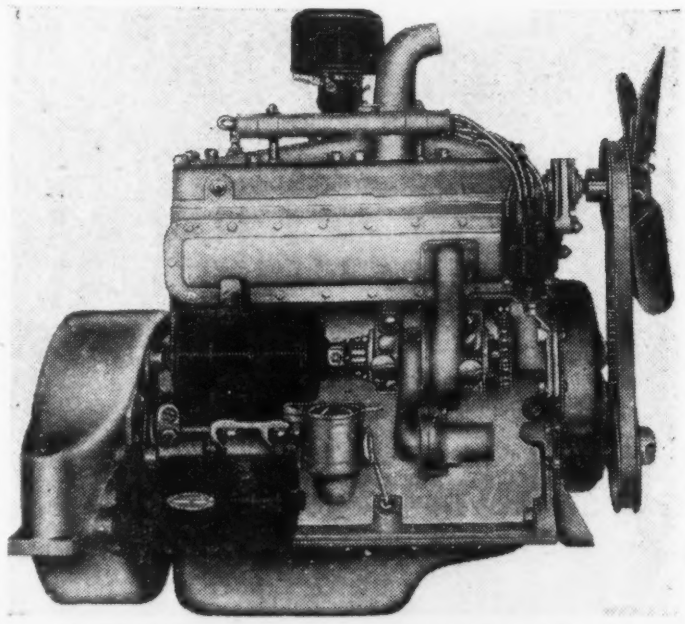
Radiators are of a modified Vee design.

Spoke steel wheels are used. These are mounted tapered roller-bearings at the rear. Tapered roller-bearings are likewise used on the steering spindles; 6.00 x 20 tires are used on front, and 32 x 6 at the rear on both models.

The steering gear is of the cam and lever type.

Lockheed hydraulic four-wheel brakes used are of the internal expanding type, with 15 x 2 1/4 in. shoes at the rear, and 14 x 1 3/4 in. shoes in front. The parking brake, mounted at the rear of the transmission, is of the contracting type 2 in. wide, operating on an 8 in. drum.

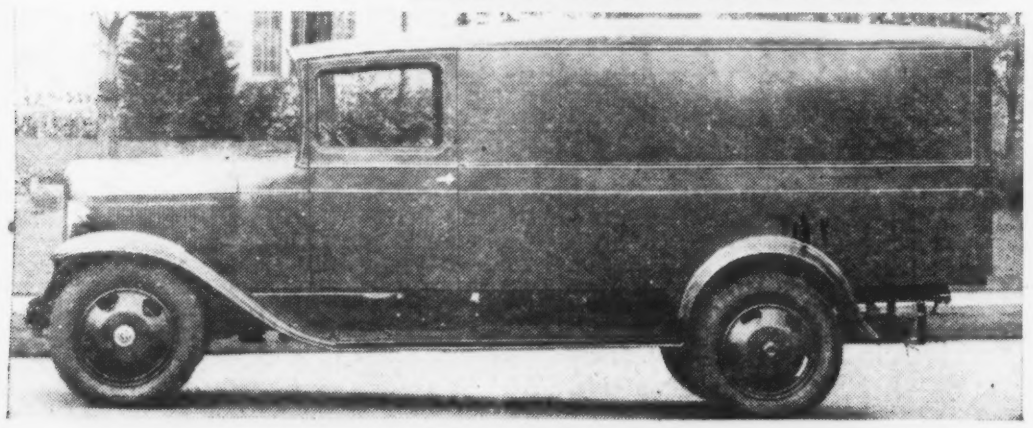
The chassis weight of the four is 3,039 pounds, and of the six, 3,179 pounds.



POWERPLANT Used in New Six-Cylinder Reo Speedwagon

GETS CONN. CHARTER

New Britain, Conn., May 28.—Kennedy's Auto Parts, 415 West Main St., has been incorporated. Samuel Kennedy is president, Edward Kennedy, vice-president and treasurer, and Maxwell S. Kennedy, assistant treasurer and secretary.



NEW REO Speedwagon Panel Body

SIGNOR ARCUTIS GUEST OF M.A.C.C. AT LUNCHEON

New York, May 28.—Signor Arcutis, president of the Bureau Permanent in Paris, the clearing house for all the national automobile trade associations, was entertained at luncheon yesterday at the Transportation Club in the Biltmore by Alfred Reeves in behalf of the National Automobile Chamber of Commerce. The N. A. C. C. is a member of the Bureau Permanent.

Signor Arcutis told the luncheon guests something of the conditions that exist in Italy and other European countries, where the depression is even more severe than it is in America. He said also that he hoped eventually to see an International Automobile Chamber of Commerce along the lines of our own organization.

A. S. M. E. TO HOLD 3-DAY MEETING AT HARTFORD

A meeting of the American Society of Mechanical Engineers will be held in the Bond Hotel, Hartford, Conn., June 1 to 3.

The program for the three days' sessions is given herewith:

MONDAY, JUNE 1

9.30 A. M.—Registration.

Conference Student Branch Delegates.

Council meeting.

2.00 P. M.—Simultaneous sessions on

Education and Training

"Training Foremen to Deal With Human Problems in Industry," John A. McCarthy.

"Training Apprentices and Foremen," Frances Perkins.

Applied Mechanics

Jointly With Special Research Committee on Strength of Vessels

Under External Preassure

"Collapsing Strength of Steel Tubes," T. McL. Jasper and J. W. W. Sullivan.

"The Strength of Thin Cylindrical Shells Under External Pressure," Harold E. Saunders and Dwight W. Windenburg.

Fuels

"How Coal Market Values Are Related to Steam Plant Design and Operation," G. B. Gould.

Evening—Address—"Airplane Telephony," by F. M. Ryan of Bell Telephone Laboratories, New York.

TUESDAY, JUNE 2

9.00 A. M.—Conference Local Sections Delegates.

9.30 A. M.—Simultaneous sessions on

Machine Shop Practice (1)

Jointly With Special Research Committee on Cutting of Metals

"Performance of Cutting Fluids," C. W. Boston and C. J. Oxford.

"The Influence of Chemical Composition and Heat Treatment of Steel Forgings on Machinability With Shallow Lathe Cuts," T. G. Digges.

Power

"Radiant Superheater Developments," M. K. Drewry.

"Load Deflection Relations for Large, Plain and Corrugated and Creased Pipe Bends," E. T. Cope and E. Wert.

"The Decomposition of Sodium Carbonate in Steam Boilers," Reinhold F. Larson (by title).

Aeronautics

"Recent Devolpments in Airplane Design," C. J. McCarthy.

"Recent and Future Developments in Aircraft Engines," A. V. D. Willgoos.

"Recent 6,000-Mile Flight to and Above Central America," I. I. Sikorsky.

Motion picture film of Pratt & Whitney Aircraft Corporation and Chance-Vought Corporation factories.

Petroleum and Applied Mechanics

"Stresses in Dished Heads of Pressure Vessels," C. O. Rhys.

"Analysis of Stresses in Circular Plates and Rings With Application to Cylinders With Rigidly Attached Flat Head and Flanges," E. O. Holmberg and Karl Axelson.

Afternoon—Inspection trips. Pratt & Whitney Company, Chance-Vought Corporation.

Evening—Banquet.

WEDNESDAY, JUNE 3

9.30 A. M.—Simultaneous sessions on

Machine Shop Practise (2)

"Small Tools and Gauging for Interchangeable Manufacture," E. J. Bryant.

"Conventional Gauges and Their Application to Duplicate Manufacturing," Thomas F. MacLaren.

Textiles

"Use of the Butted Seam by Textile Manufacturers," J. M. Washburn.

"Counters in the Textile Industry," Harvey L. Spaunberg.

"Modern Textile Machinery the Result of Mill Research and Comprehensive Engineering," Albert Palmer.

Management

Discussion on stabilization of employment, led by Howell Cheney.

Mechanical Springs

Jointly With Applied Mechanics

Progress report on comparative tensile and shearing behavior in springs, M. F. Sayre.

"Stresses in Curved Bars," H. C. Perkins.

Afternoon—Inspection trips. Colt Patent Fire Arms Manufacturing Company, Royal Typewriter Company.

NEW PIERCE-ARROW BRANCH IN DETROIT OFFICIALLY OPENED

Detroit, May 28.—Pierce-Arrow's direct factory branch was opened here yesterday at 3182 Jefferson Ave., East, with L. J. Robinson in charge as manager. Mr. Erskine had expected to be present for the festivities, but an unexpected call from New York prevented his being here. A. J. Chanter, first vice-president and general manager and G. E. Willis, vice-president in charge of sales, represented the factory staff for the occasion.

Mr. Chanter announced that Pierce-Arrow's production would be slightly off in May under April, but that progress for the year had been very satisfactory. Dealer stocks have been reduced to a very low point and demand is continuing on a very satisfactory level.

The handsome showrooms were graced by a showing of stock models and by custom body work turned out by Le Baron's Detroit plant and by the Pierce-Arrow Buffalo factory.

The branch opened in the morning and a continuous stream of visitors was in evidence all day long.

WILLYS SIX ROADSTER SETS 5 NEW RECORDS

Toledo, O., May 28.—Flashing over a measured course on Muroc Dry Lake, Cal., a Willys six roadster has established five new Class C American stock car speed records under supervision of the A. A. A. With Eddie Hearn at the wheel, with a flying start, the car covered a mile in 50.925 seconds, an average of 70.692 miles an hour. From a standing start it set a record of a mile in 61.56 seconds, averaging 58.479 miles an hour.

Over a course of one kilometer, with a flying start it established a new record of 32.225 seconds, averaging 69.416 miles an hour. From a standing start it was clocked at 42.17 seconds, equivalent to a speed of 53.045 miles an hour. The fifth record established was a second gear run over a mile course. In this test the Willys Six was timed at 66.90 seconds, averaging 53.812 miles an hour.

HUPP MOTOR TAKES STOCK INSURANCE

Chicago, May 28.—The Hupp Motor Car Corporation of Detroit, Mich., having plants in Michigan and Ohio heretofore insured in mutuals, has terminated the mutual insurance and had it rewritten in stock companies through the Western Factory Insurance Association. This involves five or six plants with many millions of dollars in value.

This action is taken by the Hupp Corporation in recognition of the right of invested capital to earn a profit and the right of agents to earn a compensation for services rendered and is inspired by the principle of reciprocity in business.

BUFFALO A. T. A. ELECTS OFFICERS AND DIRECTORS

Buffalo, N. Y., May 28.—New officers and directors of the Buffalo Automotive Trade Association were elected recently as follows: New directors, W. F. Groom, S. A. Stephens, E. C. Bull and H. M. Kinnee. Those held over were as follows: J. L. Justice, C. L. Fletcher, M. B. Meyer.

The following officers were elected: J. L. Justice, president; H. M. Kinnee, vice-president; W. F. Groom, secretary, and C. L. Fletcher, treasurer.

NEW CANADIAN GARAGE

Buffalo, May 28.—F. H. Norton has opened a public garage and accessory store at 141-143 St. Paul Crescent, in St. Catherines, a Canadian suburb of Buffalo.

MOTIVE